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Annual Report on Railway Accidents

A SLIGHT recession from the high standard of the two preceding years and a check to the steady improvement beginning in 1948 are noted in Lt.-Colonel G. R. S. Wilson's report to the Minister of Transport on accidents which occurred on the railways of Great Britain during the year 1951. Even so, the records show that only one passenger was killed in every 38 million passenger journeys last year. The number of train accidents reported rose to 1,280 after the steady decline from 1,338 in 1947 to 1,156 in 1950. There were 14 fatal train accidents, in which 55 people were killed, comprising 43 passengers, 4 railway servants, and 8 other persons, the last-named being occupants of road vehicles at level crossings. Three accidents, at Doncaster, Weedon, and Ford, accounted for 38 of the total fatalities and 36 of the passenger fatalities. Total casualties in train accidents were 1,006, compared with 611 in 1950 and the average of 864 for 1946-50. In movement accidents there were 54 passenger fatalities, 5 more than in the previous year, but staff fatalities fell from 179 to 154 and injuries both to staff and passengers under this heading showed a marked improvement. The totals were 228 killed and 6,942 injured. Non-movement accidents, in which 24 were killed and 18,320 injured, were much the same as in 1950. The report points out the increase in the number of train fires, those in passenger trains increasing from 128 to 145 and in goods trains from 20 to 21. The average for 1946-50 was 93 passenger and 35 freight train fires. Lt.-Colonel Wilson finds it difficult to assign any one reason for the increase, but thinks

that much of it is due to more careless habits of the travelling public, particularly with lighted matches and cigarette ends. He records the acceptance by the Railway Executive of all the recommendations for fire prevention made in the report on the Beattock train fire of 1950. In conclusion, Lt.-Colonel Wilson suggests that the special and effective measures taken to ensure free flow of traffic in the winter of 1950-51 may counter the depressing effect of earlier difficulties and frustrations, which may well have had reactions on safety, and hopes that the safety of train operation generally will benefit as working results are improved.

British Railways Wagon Orders

SINCE the decision by British Railways in August of last year to increase its order with the Pressed Steel Co. Ltd. for 25,000 16-ton mineral wagons to 50,000 and spread delivery over five years, it has become known that further large contracts were in course of negotiation. As referred to in our Contracts & Tenders columns on page 361, Mr. Duncan Bailey, Chairman of Charles Roberts & Co. Ltd., stated last week that his company had maintained for a long time that if the railways could place orders for standard wagons on a five-year plan, as they now were doing, a good deal of money would have been saved to the benefit of all concerned. This and other reports indicate that a number of these large wagon orders to be delivered over a period of five years are confidently expected to be placed with old-established wagon builders very shortly. The total number of wagons, all of the 16-ton standard type, is expected to be between 80,000 and 100,000.

East African Railways Loan

THE East Africa High Commission is raising a loan of £7,135,000 for the East African Railways & Harbours. It will finance general improvements to railways and harbours, the purchase of additional locomotives and rolling stock, and the construction of deep-water and lighterage berths, and reimburse the Railways & Harbours Administration for sums made available in 1951 from its liquid balances towards its share of the redemption of existing loans. Only £4,500,000 of the total has been offered for public subscription in Great Britain, as £1,000,000 has been reserved for applicants resident in East Africa and the remaining £1,635,000 has been placed privately. A £23,000,000 loan schedule was authorised in 1949, but only £10,600,000 was raised in the market; purchases of equipment and projects provided for in the balance were financed from the Administration's own funds pending the raising of further loans. In 1951, a further loan schedule of £3,500,000 was authorised specifically to cover the purchase of additional rolling stock urgently needed, and in the Spring of this year authority was given to increase the loan ceiling by a further £32,750,000. An editorial article in our March 28 issue discussed the question of additional railway and harbour facilities in East Africa in the light of the authority to raise additional capital which the Administration was then seeking.

Higher Speeds in London Midland Region?

THE hope expressed last week by Mr. J. W. Watkins, Chief Regional Officer of the London Midland Region, of raising from 75 to the prewar figure of 90 m.p.h. by next summer the maximum speed throughout the major portion of the L.M.R. Western Division main line, suggests that great progress has been made in overtaking wartime arrears of track maintenance despite the shortages of manpower and steel. It is not necessarily a promise of high-speed expresses. Mr. Watkins, who was addressing the General Council of the Lancashire & Merseyside Industrial Development Association which also discussed electrification in the Furness area and other railway questions of the industrial North, made some suggestions of possible developments in his Region which must arouse keen curiosity. Whilst he could hold out no hope of electrification extensions, because of the prohibitive capital cost, he referred to the considera-

tion being given to intensified diesel working—presumably of passenger trains—and to investigation of its possibilities on the former Cheshire Lines Liverpool-Manchester line, where the interurban passenger traffic seems to offer excellent opportunities for dieselisation. Mention also was made by Mr. Watkins of the restriction on building new coaching stock imposed by the steel shortage and of the consequent urgent necessity to recondition old stock, which, as he pointed out, is a costly matter.

Competition with Urban Transport

IN 25 years there has been no material change in the number of passengers using urban transport services in the United States, although populations served by such facilities have increased from 63 million to over 88 million. Colonel S. H. Bingham, Chairman of the Board of Transportation, City of New York, has examined this situation in a speech to the Chamber of Commerce of Kansas City. He saw it as a result of a mass transfer of passengers from public transport to private cars, on a scale that caused serious congestion of the central streets and forced haphazard development of business areas on the outskirts. There had been no lack of enterprise in improving the vehicles and equipment used in urban transport services, and he instanced experiments with electronic devices for train identification on the New York City Transit System. When fully developed, this apparatus would select a route, operate describers, and, if necessary, initiate loudspeaker announcements at stations. Colonel Bingham thought some restriction on private cars in central areas, particularly on parking, was essential to permit efficient operation of urban transport services, which he sees as the best means available of moving large numbers of people to and from their work in cities as they are planned at present, and as they are likely to remain for many years.

Palletisation Progress

COMPLEMENTARY to and amplifying the demonstration by British Railways of types of standard wagon and mechanical handling methods to which we referred last week, the Road Haulage Executive last Tuesday staged a demonstration at Battersea Wharf Goods Station which illustrated the progress made and being made in developing palletisation in British Road Services. Besides the more familiar fork lift and pallet trucks and various types of pallet, the use was shown of the moving floor in road vehicles for loading and unloading, two types being demonstrated: the Jekta principle of a power-operated traversing section, and a G.P.O. conveyor type moving floor. A new technique in process of development by the Road Haulage Executive is multi-fork working, which with the aid of a prong attachment to the fork lift truck, with side shift mechanism, and of suitably corrugated floors at loading banks and in vehicles, would do away with the need for pallets to travel in the vehicle. It is not claimed at this stage that some of these devices are more than experimental, for their application on a wide scale must be studied in relation to the heavy costs incurred.

Rail-End Hardening

THE quench-hardening of the running surfaces of rail-ends is now established practice in the United States; its purpose is to provide increased resistance to the battering which results from the passage of the rolling load over the gap between the rails at the joint, and which eventually, with the standardisation of flat-bottom rails for main-line use, may affect British Railways also. At the Pueblo works of the Colorado Fuel & Iron Corporation, early end-hardening, which began in 1935, suffered from lack of control and of uniformity in method, but an end-hardening plant has now been installed which is both exact in its control and also entirely automatic in action. A hydraulic conveyor system passes the rails, in groups of four, first to four pre-heating burners, which raise the temperature of the ends to 1,000° F., and then to a larger burner, which increases the temperature to 1,600°; the final step, of quenching, is done under a cold air blast at 100 lb. per sq. in. The conveyor system is automatically controlled

by electric timing devices, and the intensity of the heat by a precision air-gas mixing system. The hardened area of the rail covers the full width of the head, and extends back for 1½ in. from the end; the maximum depth affected is ¼-in. The Brinell hardness aimed at is between 330 and 400.

Wagon Repairs at Exmouth Junction

A FEATURE of the development of Exmouth Wagon Shops, Southern Region, which is the subject of an article elsewhere in this issue, has been the training of the necessary staff, for the area in which the works are situated was originally entirely devoid of employees with the experience required for the work to be undertaken. The problem was met by introducing a nucleus of trained staff, augmented by unskilled labour, and this, together with the introduction of an internal promotion scheme, enabled the target figure of 60 wagons per week to be maintained. The development of Exmouth Junction as a wagon repair depot was made necessary by the taking over by British Railways of privately-owned mineral wagons and the necessity of overtaking the maintenance of wagons accruing during the war, there being some 7,000 requiring repairs in the Southern Region. Some measure of the success of the scheme can be gauged by the fact that by the end of 1951, not only were the arrears of wagons dealt with, but in addition the new depot was able to handle repairs to wagons accruing from its own area, and was also able to undertake wagon repairs from other nearby districts.

U.S.A. Diesel Operation

THE latest statistics of the U.S.A. Interstate Commerce Commission show that throughout 1951 two major railways only—the Gulf Mobile & Ohio and Elgin Joliet & Eastern—claimed 100 per cent. dieselisation of passenger, freight, and shunting service, but that various other lines are rapidly approaching the same goal. Passenger service was dieselised to the extent of 96·4 per cent. on the Lehigh Valley, 95·8 per cent. on the Boston & Maine, 94·5 per cent. on the Seaboard Air Line, 93·3 per cent. on the Missouri-Kansas-Texas, 92·5 per cent. on the St. Louis-San Francisco, 91·8 per cent. on the Delaware Lackawanna & Western, and 91·4 per cent. on the Western Pacific. Freight was 99·7 per cent. diesel-operated on the Western Pacific, 97·7 per cent. on the Seaboard Air Line, 96·4 per cent. on the Atlantic Coast Line, 96·0 per cent. on the Lehigh Valley, 95·8 per cent. on the Chicago, Burlington & Quincy, 93·8 per cent. on the Nickel Plate, 93·7 per cent. on the Erie, 93·2 per cent. on the Great Northern, and 90·3 per cent. on the St. Louis-San Francisco. Above the 90 per cent. in dieselised shunting were the Lehigh Valley (94·2 per cent.), Texas & Pacific (92·3 per cent.), and Delaware & Hudson (90·3 per cent.) only. Since the end of 1951 several railways have completed their dieselisation, notably the St. Louis-San Francisco, with 4,925 route-miles of line, the Lehigh Valley, and the non-electrified portion of the New York New Haven & Hartford.

Taking a Chance

AN unusual origin of a derailment was brought out in the inquiry conducted by Brigadier C. A. Langley into the accident which occurred on May 25, 1952, at the Pardovan Siding, between Linlithgow and Philipstoun, a summary of the report on which appears in this issue. A sub-ganger on patrol took a sudden decision to attempt, single-handed, to replace a bolt in a crossing, imagining he would have time to do it before any train was due, but he knew nothing about an excursion which was running that Sunday. While the crossing was dismantled, the train appeared at speed and in the end he had to watch it pass, hoping for the best. Fortunately the results of the derailment were not serious and nobody was hurt. The man's action, characterised as foolhardy in the report, was in direct violation of the rules, as he very well knew. This case brought to light the difficulties being experienced, in consequence of the closing of stations, in distributing special traffic notices to permanent way men, and Brigadier Langley stresses the importance of reform in this vital matter.

Carelessness of the Public at Crossings

LOCAL administrative officials in Westphalia who recently made an inspection to study level crossing safety found that in the Hanover Division of the German Federal Railways where there are 1,860 crossings and where some 10,000,000 movements of the barriers were made in a given period, only one instance occurred of an accident caused by the gatekeeper acting without sufficient care. It was noted, however, by direct observation, how extraordinarily careless were large numbers of users of the crossings; many would ignore the descending barriers and, by maintaining speed, force the gateman to turn them back to avoid serious damage to them. Often also foot passengers or cyclists would force their way by, thereby making it necessary to raise the barriers again to allow them to get clear of the line. The indiscipline of the public in this matter was seen to be almost the only source of danger at crossings. While some advocate warning light signals without barriers as being the more modern arrangement, the danger remains of road users treating the warning indications with contempt, with serious possibilities, not only to themselves but to railway travellers as well.

U.S.A. Locomotive Fuel

SOME interesting sidelights on the locomotive fuel situation in the U.S.A. are given in a recent issue of the *Monthly Comment* of the Bureau of Transportation Economics and Statistics, Interstate Commerce Commission. In the first four months of 1952, the purchases of diesel fuel were up by 22.5 per cent., whereas locomotive coal was down by 25.5 per cent., and fuel oil (for steam locomotives) by 27.5 per cent. In the twelve months' interval, the cost of diesel fuel and fuel oil had both dropped slightly, but coal had gone up from an average of \$4.50 to \$4.58 a ton; the unit cost of current on electrically worked lines rose from 1.004 to 1.023 cents per kW-hr. in the same period, during which the demand for current increased by 1.2 per cent. In the six years from 1946 to 1952, locomotive coal has increased in price by 62.8 per cent., and diesel fuel by 77.7 per cent., but locomotive fuel oil by no more than 40.7 per cent. The cost of the last-named has dropped very substantially since April, 1948, when it was nearly twice that of April, 1946; to-day this class of oil, a by-product from the manufacture of petrol and other high-class fuels, is by way of being a glut on the American market, but too late to have any effect on the diesel trend on the railways.

The Future Pattern of Transport

WHEN Parliament reassembles one of its first preoccupations will be the Transport Act which was introduced by the Conservative Party before the House rose. During the recess the Minister of Transport has been at considerable pains to acquaint himself with many of the problems confronting the transport industry and also to become familiar with the views of a large cross-section of people intimately concerned with the operation, administration or use of transport services. Meanwhile the first step in implementing the Government's policy will have been taken by abolition of the Road Passenger Executive as from September 30.

It is clear from statements that were made both by Mr. Alan Lennox-Boyd, the Minister of Transport, and Mr. John Elliot, the Chairman of the Railway Executive, at the exhibition of freight rolling stock which was opened on September 17, that a good deal of hope is being focused on an improved system of railway charges. Mr. Elliot urged that in the new legislation Parliament should get rid of some of the archaic charging enactments, the disappearance of which would give the railways a real charter of freedom and enterprise. Mr. Lennox-Boyd seemed to confirm that Mr. Elliot's hope might well become a reality when he suggested that railways might be put in a better and more prominent competitive position by con-

siderable and often drastic changes in some of the charges proposals.

It is well recognised that one of the major difficulties under which the railways have suffered for generations has been the inequality of their freedom in the matter of charges as compared with other forms of competitive transport. If the deliberations which are undoubtedly taking place at the present time result in the acceptance by Parliament of a charges scheme which removes this disability from the railways it may well be that the two upheavals which the industry has had to suffer in five years will prove ultimately to have been worth while.

The vast majority of railwaymen, as Mr. Elliot stressed, are not very politically conscious, but all too frequently they have politics thrust on them. Their main concern is the efficient and economic working of the railways but this is made especially difficult and must often be tinged with a feeling of frustration because of the recurring impact on the industry of changes which themselves have a political basis. It is probably too much to hope, although nothing could be more desirable, that transport as a whole can be removed entirely from the political arena. There is no good reason, however, why, by a measure of agreement between the parties on some essential aspects of the industry, the new legislation should not be so framed as to introduce a greater promise of stability than did the 1947 Act. If the railways could look forward with confidence to a reasonable period—far longer than the life of a Parliament, for example—of safety from fundamental change it would enable practical railwaymen to plan ahead with a measure of assurance which would have great benefits, not only to the services they operate, but to the trade and industry in the country.

As Mr. Elliot stressed, the real problems which face transport are not political but technical and, above all, commercial. It is the recurring intervention of the political factor which has so adverse an effect on technical and commercial progress. It is encouraging to note that Mr. Lennox-Boyd held out some promise that it may be possible to arrive at some basis which will have an element of permanence. Obviously, at the present juncture it is not possible to estimate to what extent the Minister's statement is based on hope or on his own knowledge of discussions which necessarily must remain confidential at present.

Motive Power for Railways

NOW that fuel problems have become a subject of general interest and discussion, many views are expressed as to the most suitable form of motive power for railways. It is by no means easy to have access to all the facts and considerations bearing on the subject, and therefore an expert review such as that presented by Mr. C. M. Cock in his presidential address to the Institution of Locomotive Engineers last Wednesday is particularly opportune at the present time. The author dealt in turn with self-propelled railcars, electric and diesel-electric traction, turbine locomotives, and sources of energy, reviewing the present development of each and its claims to wider use in the light of the coal situation.

Mr. Cock said that electrification, under favourable conditions, could be the cheapest and most efficient of all forms of traction. He made it clear that many factors affect the decision to electrify, differing according to whether the scheme is main-line or suburban, and that no one system of voltage or current will ensure economic success in all circumstances. Although annual charges for electric power can show a saving compared with those for locomotive fuel whether a scheme is main-line, suburban, or a combination of both, this economy is offset to a varying extent by operation and maintenance costs associated with fixed equipment. Of the 50-cycle single-phase a.c. system, Mr. Cock said that while it is attractive so far as the cost of the fixed installations is concerned, it has technical drawbacks additional to the generally quoted problem of unbalance on the three-phase power network. The single-phase commutator motor still compares unfavourably with its d.c. counterpart in characteristics, weight, first costs,

and maintenance costs, although designers are narrowing the gap. In the forthcoming trials of 50-cycle traction on the Lancaster-Heysham line of the L.M.R., the multiple-unit stock will be equipped with d.c. motors fed from rectifiers. Mr. Cock reviewed the prospects for 50-cycle conversions in the event of general electrification on British Railways, when presumably lines with heavy traffic would be converted first and others of the remainder would be electrified gradually, and as justified on economic or operational grounds. He thought that on the heavily-loaded lines and large numbers of junctions in this country, the 50-cycle system might present problems in correcting out-of-balance on the three-phase grid in some areas; possibly heavy expenditure would be incurred on the large number of high-speed circuit-breakers required for sectioning the track conductors for protection against faults and maintenance purposes; and it would be almost impracticable to alter many of our tunnels to provide the clearance necessary for a high-voltage contact line.

Discussing diesel-electric traction, Mr. Cock described its phenomenal expansion in the United States and the data acquired there from operating experience. He quoted the thermal efficiency of the diesel-electric locomotive at the rail as being about 26 per cent., and showed how the diesel engine with electric transmission develops its full rated power output over a wider and more useful range of track speed than the steam locomotive. This characteristic, said Mr. Cock, gives the diesel-electric an obvious advantage with freight services, yard working, and heavily graded lines, but where long, sustained high-speed runs are involved it is possible that the diesel-electric locomotive may lose some advantage. Comparing conditions of diesel operation in the United States and Great Britain, Mr. Cock expressed the view that it was chiefly capital cost and utilisation that might prove unfavourable here, where conditions of railway operation are not similar to those in the U.S.A., particularly with regard to routes lending themselves to long runs and a high degree of locomotive utilisation. He demonstrated that direct comparisons of capital and fuel costs between a steam and a diesel locomotive may give an unrealistic result, because of the many auxiliary factors that arise when a large number of diesel locomotives displaces a considerably larger number of steam locomotives for equivalent work in a completely dieselised area. United States experience justifies an assessment of diesel traction on a large scale to obtain a realistic revelation of the saving in costs.

The author then discussed turbine locomotives, observing that although steam turbine designs have performed well, all have either gone to the scrap heap or been converted to conventional types. Gas turbines have the advantages for railway work of simplicity, low maintenance costs, high ratio of power to total length and weight of locomotive, and high availability. In practice the best efficiency figure yet attained in a gas turbine in the restricted space of a locomotive is 19 per cent. at the turbine shaft, which with electrical power transmission would be reduced to a full-power efficiency of 15.5 per cent. at the rail. It would not be impossible to obtain 24 per cent. thermal efficiency at the shaft of an open cycle gas turbine with heat exchanger within a weight and power suitable for a locomotive. Capital and maintenance costs of gas turbine locomotives might be lower than for diesels, but fuel costs are higher because a locomotive in service runs for only part of its time on full power. Assuming it operated continuously at 50 or 60 per cent. full power, gas turbine efficiency at the shaft would be 15 per cent., compared with 35 per cent. in these conditions from a diesel engine. Dynamometer car trials on British Railways have shown that the thermal efficiency of gas turbine locomotives so far tested is little better than that of steam locomotives when hauling similar loads over similar routes. Mr. Cock maintained that no equally satisfactory alternative to electric transmission has so far become established or to any large extent proven for diesel or gas turbine locomotives of high power. A gas turbine might, indeed, be geared to the road wheels of a locomotive, with some economy of internal losses, but complications would arise in coupling numbers of axles and arranging for forward or reverse working.

Mechanical drive with a gas turbine still falls somewhat short of the ideal speed/tractive effort characteristics inherent in electrical drive.

The author stated his conclusions in the light of the urgent need for coal conservation in this country. He estimated that complete electrification here would bring an annual quantitative saving of not less than 8½ million tons of coal, or 4 per cent. of national production, and, indeed, the full 14 million tons of best quality coal now consumed in locomotive boilers would be available for other purposes. Further large-scale extensions of electrification would be justified by experience already gained and could confer immense benefits on the nation, while giving the railways a new lease of life and bringing them back to their proper prime place in the transport system as a whole. Experiments in this country with diesel main-line locomotives, however, have not been sufficient to demonstrate the advantages of this form of traction on a really extensive scale, but there is sufficient similarity between conditions here and in the U.S.A. to suggest that complete replacement of steam locomotives over large areas should be successful.

British Transport Commission Traffic Receipts

THE advance returns show that the merchandise and livestock receipts of British Railways for Period 9, the four weeks to September 7, only very slightly exceeded those for the corresponding period of 1951, which, in view of the 10 per cent. increase in rates in the past year, shows that traffic continues to be below last year's level; this is reflected in British Road Services receipts, and points to continuance of the recession which has been affecting traffics for some months past. There is some increase on Period 8; merchandise receipts for the latter were £6,404,000, against £7,624,000 for Period 9, though the rise in takings seems to be mainly seasonal. The increase of 15.2 per cent. in mineral receipts shows a marked rise in ton-mileage over the corresponding period of 1951. Coal traffic was down compared with last year; the improvement on Period 8 would be accounted for by the incidence of the bank holiday and annual holidays during the July-August period.

	Four weeks to September 7		Incr. or decr.	Aggregate for 36 weeks		Incr. or decr.
	1952	1951		1952	1951	
British Railways—	£000	£000	£000	£000	£000	£000
Passengers	10,582	10,443	+ 139	79,627	77,385	+ 2,242
Parcels, etc., by passenger train ...	2,793	2,633	+ 160	24,343	22,653	+ 1,690
Merchandise & livestock ...	7,624	7,619	+ 5	71,248	67,115	+ 4,133
Minerals	3,139	2,723	+ 416	28,371	24,319	+ 4,052
Coal & coke	7,233	7,172	+ 61	68,577	61,537	+ 7,040
	31,371	30,590	+ 781	272,166	253,009	+ 19,157
British Road Services ...	5,731	6,101	- 370	52,252	52,132	+ 120
Road Passenger Transport:						
Provincial & Scottish—						
Buses, coaches & trolley-buses	4,670	4,213	+ 457	33,575	30,482	+ 3,093
London Transport—						
Railways	1,389	1,249	+ 140	12,316	11,107	+ 1,209
Buses & coaches	3,263	2,737	+ 526	27,065	23,143	+ 3,922
Trolleybuses & trams ...	725	739	- 14	6,632	6,733	- 101
	5,377	4,725	+ 652	46,013	40,983	+ 5,030
Inland Waterways—						
Tolls	73	71	+ 2	662	595	+ 67
Freight charges, etc. ...	108	92	+ 16	871	758	+ 113
	181	163	+ 18	1,533	1,353	+ 120
Total...	47,330	45,792	+ 1,538	405,539	377,959	+ 27,580

British Railways' passenger receipts for Period 9, which covers several of the peak holiday traffic weeks, slightly exceeded those of Period 9 of 1951. The indications are that receipts from ordinary fares were much the same as,

or very slightly less than, last year, with increased takings from season tickets in the London Area, as was to be expected from the fare increases last March, and from travel on cheap-day and excursion tickets.

London Transport railway and bus receipts were well up on last year, as the result of the March fare increases. Both were markedly less than for the preceding period, which shows the importance to London Transport of seasonal visitors to London and of excursion traffic in summer weather.

The receipts given in this series of advance returns represent some 90 per cent. of British Transport Commission traffic receipts. The aggregate figures for 36 weeks, nearly three-quarters of the year, show that for the carrying agencies included in the table above, total receipts exceeded those for the 36 weeks of 1951 by 7.2 per cent. For British Railways the increase in the aggregate is 7.5 per cent. Apart from the recent Government intervention in the matter of passenger fares, estimated to result in a loss of revenue which would amount to nearly £2 million in a full year, the purpose of increasing freight rates during the past twelve months seems to have been defeated to some extent by the falling off in merchandise traffic and the disappointing coal traffics, though some allowance had been made for loss of merchandise traffic to the roads.

PERCENTAGE VARIATION 1952 COMPARED WITH 1951

	Four weeks to September 7	36 weeks to September 7
British Railways—		
Passenger	+ 1.3	+ 2.8
Parcels	+ 6.0	+ 7.4
Merchandise & livestock	—	+ 6.1
Minerals	+15.2	+16.6
Coal & coke	+ 0.8	+11.4
Total	+ 2.5	+ 7.5
British Road Services		
Road Passenger Transport	— 6.0	+ 0.2
Total	+10.8	+10.1
London Transport—		
Railways	+11.2	+10.8
Buses & coaches	+19.2	+16.9
Trolleybuses & trams	— 1.9	— 1.5
Total	+13.7	+12.2
Inland Waterways		
Total	+11.0	+13.2
Aggregate	+ 3.3	+ 7.2

Winter Train Services, Southern Region

THE principal improvements in this winter's Southern Region train services, as compared with those of last winter, arise from the acceleration in July last of the "Atlantic Coast Express" in both directions. For the winter the mile-a-minute run of this express in the down direction from Waterloo to Salisbury—83.8 miles in 83 min.—is retained, with the time of 3 hr. 5 min. from London to Exeter, and a journey by this train is shorter by 61 min. to Padstow, 48 min. to Bude, 39 min. to Exmouth, 29 min. to Ilfracombe, 24 min. to Exeter, and 23 min. to Sidmouth, than one made last winter. Similarly in the up direction, with a Waterloo arrival at 3.40 instead of 4.18 p.m., the journey to London is shorter by 38 min. from Padstow, Bude, Ilfracombe, Exeter, Exmouth, and Sidmouth than it was a year ago. The 9 a.m. from Waterloo also is 32 min. faster to Lyme Regis than last winter, and 9 min. faster to Exeter.

There is, as already announced, a considerable change in the outward Continental service *via* Dover and Folkestone. The "Golden Arrow" is altered from its time-honoured mid-morning departure to take over what hitherto has been the 2 p.m. service from Victoria (1 p.m. between October 26 and April 18, 1953). Much was made in the summer advertising of the fact that the "Golden Arrow" service had been accelerated by 5 min. to Calais, giving the fastest time on record from London to a French port, and it must therefore be remarked that diversion *via* Folkestone involves a deceleration by 30 min. to Calais, and by

42 min. to Paris, reached at 9.34 p.m. Ordinary first and second class passengers leave Victoria at 1.30 p.m. (12.30 p.m. from October 26). A service from Victoria at 11 a.m. (10 a.m. from October 26) is still being maintained, *via* Dover-Calais, with arrival in Paris at 6.8 p.m., 16 min. later than last winter's "Golden Arrow" arrival, and 9 min. earlier than the previous arrival of non-Pullman passengers. No change is made in the Paris-London times, as compared with those of last winter; the "Golden Arrow" leaving Paris at 12.30 p.m., and reaching Victoria at 7.30 p.m. (6.30 p.m. from October 26) is now the fastest service of the day, running *via* Calais-Dover and taking 7 hr. from Paris to Victoria.

Among minor changes, the 12 midnight train from Victoria to Brighton, Eastbourne, and Hastings (dividing at Haywards Heath), which last autumn was withdrawn after September 29, this year is being continued throughout the winter; the same applies to the 8.5 p.m. from Hastings and the 8.36 p.m. from Eastbourne to Victoria. On Sundays last winter's 8.5 p.m. from Waterloo to Bournemouth now starts at 8.30 p.m., but reaches Bournemouth only 9 min. later. The Southern Region timetable includes numerous additional trains between the London terminals and the coast scheduled to run on Saturdays from the beginning of June, 1953.

Scottish Region Winter Services

IN the public announcements of the improvements in the through Anglo-Scottish services by the West Coast route, much has been made of the acceleration of the through night service from Euston to Inverness by 71 min. In fact, last winter, for the sake of economy, the Inverness sleeping cars and coaches off the 7.15 p.m. from Euston were not run through independently from Perth to Inverness, as in previous years, but were detained at Perth for 1 hr. 57 min. and then attached to the mail at 6.45 a.m., reaching Inverness at 10.8 a.m. During the summer there was the normal through working of the London train, reaching Inverness at 9.7 a.m., and this is now being continued for the winter. With departure from Euston at 7.20 p.m., 16 min. only spent at Perth, and Inverness arrival at 9.2 a.m., the actual acceleration, therefore, is 10 min. The breakfast car from Perth is now attached to this train, leaving Perth at 5.13 a.m., and the 6.47 a.m. mail will no longer have this facility.

Reference was made in last week's issue, in connection with the North Eastern Region, to the cuts in times between Edinburgh and Berwick. This affects all the expresses; compared with last winter, the 10.10 a.m., 2.0, 2.30, 5.14, 8.0, and 10.40 p.m. from Edinburgh to Berwick are accelerated by 6, 6, 4, 7, 6, and 6 min. respectively, and the 4.11, 4.51, 5.37, 8.13, 11.10 a.m., and 2.14, 5.15, and 8.48 p.m. from Berwick to Edinburgh by 5, 5, 4, 6, 5, 5, 5, and 5 min. respectively, even though the last-mentioned (the "Heart of Midlothian") has an additional stop at Dunbar. The best time over the 57.5 miles from Edinburgh to Berwick, that of the 2 p.m. "Heart of Midlothian," comes down to 63 min., and the best in the reverse direction to 65 min. Non-stop trains between Newcastle and Edinburgh share in this general speed-up.

Refreshment car facilities withdrawn at the beginning of last winter's services, but later restored, are to be continued during the coming winter. The trains concerned are the 10.40 a.m. from Inverness to Helmsdale, and the 5.40 p.m. back, the 5.46 a.m. and 3.46 p.m. from Glasgow to Fort William and the 9.28 a.m. and 2.52 p.m. back, and the 8.35 a.m. from Glasgow to Edinburgh and the 6.40 p.m. back. There is no restoration, however, of the car which ran for many years between Aberdeen and Inverness *via* Elgin, nor of the cars on the 5.40 p.m. from Glasgow to Carlisle.

As is now customary during the winter, Buchanan Street and St. Enoch stations in Glasgow will be closed entirely on Sundays from October 5 to May 17, 1953, inclusive. Trains normally using Buchanan Street will be diverted to Queen Street, and those using St. Enoch to Central Station during this period.

LETTERS TO THE EDITOR

(The Editor is not responsible for opinions of correspondents)

Preservation of Locomotives

September 20

SIR,—Whilst agreeing with Mr. R. A. Pascall's letter in your September 19 issue that a "Claud Hamilton" should certainly be preserved, I consider that there is an even stronger case for preserving one of the "I3" L.B. & S.C.R. express tank engines. Not only were they the first locomotives without tenders since the days of the Bristol & Exeter Railway to be designed for genuine express work, but they also did more than any other type to further the cause of superheating in this country by their outstandingly economical performance.

Yours faithfully,
F. S. BOND

Tunbridge Wells

Defects of the Transport Bill

September 13

SIR,—It would be difficult to name a Parliamentary Bill that has been condemned so generally as the Transport Bill by people of varied political allegiance, the Press (technical, financial and general), and those in the transport industry unable to make their views publicly known. Not only is there growing positive objection, but there is also the extremely significant negative dissatisfaction illustrated by the pitiful response to Road Haulage Association inquiries as to willingness to purchase units of the Road Haulage Executive which are to be offered for sale.

What is singularly unfortunate is that the public has no opportunity of hearing the opinions of the railways or of the road haulage side of the British Transport Commission, or of the Commission itself. These bodies can be attacked from all sides and criticised even by Ministers on information and figures which can be shown to be spurious, without opportunity of defending themselves in public. All this arises from the activities of a vociferous minority which was in the road haulage industry, which is beginning to find that the support of the hauliers for the Bill is, to put it no higher, doubtful.

All the talk about free private enterprise turns out to be nothing more than demand for the "closed shop" policy inaugurated by the Road & Rail Traffic Act of 1933—a policy which from the beginning I fought because I knew it would lead to price-control and ultimately to private monopoly of transport. The freedom of the "C" licence saved us from that, but, as Mr. Churchill points out, it has led to a great excess of transport resources, and to great waste from a national point of view. The "A" contract licence has been a help to hauliers as well as to traders, but look at the waste there—national waste. For example, a haulier 70 miles from London has vehicles under "A" contract licence with a client in London, and with a regular traffic between London and the operating centre of the haulier; another client in the town of the operating centre has a similar contract with regular traffic in the opposite direction. The vehicles of the two contracts run regularly empty in opposite directions. There are thousands of such cases throughout the country if the hauliers and their customers observe the law.

The lesson of this is that there is no halfway house between complete freedom for all (including the railways) and complete monopoly of all transport, public or private. The Transport Bill is apparently based on the philosophy of free private enterprise, but its approach is too timid. The railways are not to be quite free. The law of undue preference, with all its anachronisms, remains, as also does publication of rates, and there are the rights of statutory interference with the railways by coastal shipping companies and even by road hauliers in the matter of charges.

Road hauliers are not to be free, for even when the 25-mile limit is removed, there is still the bureaucratic foolishness of the licensing procedure, though so much

modified as to open the door much wider to applicants for licences. "C" licence vehicles will grow ever more rapidly, unless taxation becomes the most potent factor in the restraint of competition.

The remedy is to free the railways commercially—they are mature—retain the Road Haulage Executive, repeal the licensing clauses of the Road & Rail Traffic Act of 1933, except clause 8, sub-section (1) dealing with wages, public safety, etc., and set up a permanent committee of both Houses of Parliament on the lines of the Select Committee on National Expenditure to study and report on the practical means of ensuring that the best use is made of our system of communications as a whole and the instruments of movement from the point of view of technical manipulation of the traffic. All this would be within the framework of a Charter guaranteeing freedom from major political interference with the general set-up of the competitive industry for twenty years or so.

Yours faithfully,
FREDERICK SMITH

65, Hallswell Road, Northwood

Connections from London to North-East Coast

September 9

SIR,—With the introduction in the winter service of a fast business men's service at 8 a.m. from Kings Cross to the West Riding, there appears to be an excellent opportunity of meeting a long-felt need in the provision of similar facilities to the N.E. Coast, which would enable the return journey to Newcastle and most important N.E. towns to be made comfortably in the day with from 2 to 2½ hr. for business in the afternoon.

This could be done, without additional mileage, by a slight adjustment of the schedules of the new 8 a.m. from Kings Cross to Leeds Central and the existing 9 a.m. from Liverpool Lime Street to Newcastle via Leeds City, to provide a smart connection at Holbeck. On present timings the connection fails by less than ten minutes; the 8 a.m. from Kings Cross is due at Leeds Central at 11.31 a.m., while the 9 a.m. from Liverpool leaves Leeds City at 11.20 a.m. and passes Holbeck Low Level about 11.23 a.m.

It would require very small alteration to the timings of either or both trains to make the connection. Delay to the Liverpool-Newcastle train by calling at Holbeck could perhaps be made up by smarter running on the run to Newcastle. The advantages of such a connection are considerable (particularly as no extra mileage is involved) in that all the principal towns on the N.E. Coast could be reached from London in time for an afternoon appointment; refreshment car facilities are available through to Newcastle.

Assuming that the timing of the Liverpool-Newcastle train northward from Leeds remains more or less as at present, in addition to good facilities to the N.E. Coast, a fast early morning service would be available to Harrogate (approximately 4 hr.) and to Ripon. From London, arrivals at important N.E. Coast towns would be Darlington 12.51 p.m., Durham 1.33 p.m., Newcastle 1.55 p.m., by changing at Darlington, Thornaby at 1.25 p.m., and Middlesbrough at 1.31 p.m.; also, by changing at Northallerton instead of Darlington, into the following Leeds-Newcastle train via York and the coast route, Stockton is reached at 1.36 p.m., West Hartlepool at 2 p.m., and Sunderland at 2.31 p.m.

I do not think that business men would object to a smart change at Holbeck, if by so doing they could transact their business on Tyneside and Teesside and return by the "Heart of Midlothian," arriving at Kings Cross at 10.4 p.m.

Facilities for the return journey to London in the day from the N.E. Coast have been available since before 1914. Why not similar facilities from London?

Yours faithfully,
R. C. HOGG

"Murrayfield," Kewferry Road, Northwood

THE SCRAP HEAP

Seeds on Sand

Three years ago, travelling through poor sandy scrub land between Bulawayo and Mafeking, I noticed on each side of the railway track stretches of peach trees laden with ripening fruit.

I was wondering who planted the trees and for what purpose, as there was no sign of people, when it dawned on me that these trees had grown from peach stones thrown from the train. Probably the sand had become good soil by the addition of refuse also thrown from the train.—From a letter to "The Daily Telegraph."

Narrow-Gauge Arrow

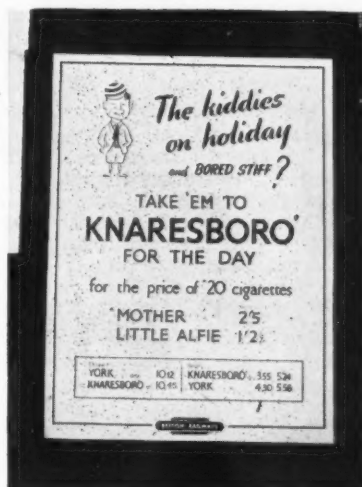
The English fanatic for steam trams and odd railways . . . must look abroad. For the true enthusiast there is no hunting ground like the Midi. . . . Waiting at a wayside station, drinking sweet white wine in the heat of the day, one would expect any train on the tiny tracks to consist of a gallant toy engine, sagging at the seams, drawing hard-seated wooden carriages. Instead, a minute six-wheel autorail comes sweeping down from the hills, gleaming in maroon and dove-grey and (when once daily it omits a few halts) calling itself "La Flèche des Cévennes."—From an article by Bryan Morgan in "Time and Tide."

Festival Locomotive in Victoria

One of the seventy class "R" 4-6-4 locomotives built for the Victorian Railways by the North British Locomotive Co. Ltd. was placed on show at the Exhibition of Industrial Power, Festival of Britain, at Glasgow, during 1951. This locomotive, No. R.704, arrived at Melbourne early in January, 1952, and on account of its exhibition finish and painting it was decided to use it for the Royal visit trains on the Victorian Railways. The death of King George VI in February caused the tour to be cancelled, and R.704 went into service on February 22 this year as an ordinary member of the class. In April,

however, the cab side number plates were removed and two large plates affixed instead, with an inscription showing that No. R.704 was the locomotive selected for exhibition.

Truth in Advertising



Poster exhibited at York Station, N.E. Region, to encourage holidaymakers to make day trips to Knaresborough

Man and Superman

Some visitors to the exhibition at Battersea of British Railways new freight rolling stock and mechanical handling appliances may regret that no mention is made of one of the pioneers in the struggle for a safer handling of goods, George Bernard Shaw. Nearly 40 years ago, and, incidentally, at Battersea, Shaw, sitting in an armchair with a glass of water at his feet, was transferred from one moving truck to another, apparently without damage. These remarkable trucks were never developed, however, and the only suc-

cessful vehicle that survived these experiments was "The Apple Cart."—From "The Manchester Guardian."

Light Fingered

A signalman at Port Talbot, Glam., railway station, can produce enough light to read a newspaper from an electric light bulb by rubbing it in his hands.—From "The Daily Graphic."

Safety Last

The old couple were sitting in the last carriage of a railway train.

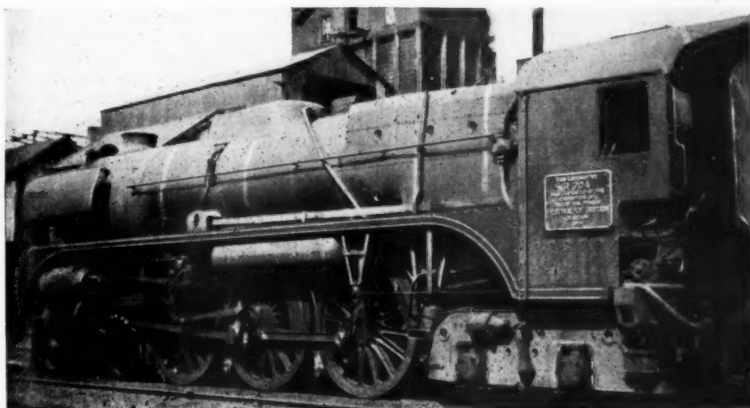
"Oh dear, John," said the nervous old lady. "Why did we get in the last carriage? You know it is dangerous. I wonder why they don't take it off?"—From "The Evening News."

Unseen and Unheard

Two London children of 12 and 13 have outdistanced the Plymouth boy who, at the age of 3½, took a train ride by himself from Plymouth to Reading, as recorded in our September 19 issue. While playing in a train at Euston they heard a whistle blow, and before they could alight found themselves bound for Scotland. They hid themselves until their carriage reached Inverness, where they managed to leave the station still without being noticed. Later they were found wandering on a golf course.

Homeward Bound

There are a few who have left their holidays till autumn; but for most people the only journey is inevitably homeward. By train, it is almost certainly best to make the return under cover of darkness. There is a comforting romance about a night journey and at worst once the traveller is safely tucked up he can metaphorically sob himself to sleep. He cannot see all those beloved stations passing him in reverse order. Other trains will rush and roar past him in the blackness, but he will be spared the horrid jealousy of knowing for certain whither they are bound.—From "The Times."



Photos]

[S. Whalley

Victorian Railways "R" class 4-6-4 locomotive, built by the North British Locomotive Co. Ltd., carrying a plate on the cab recording its exhibition in Glasgow during the Festival of Britain last year

OVERSEAS RAILWAY AFFAIRS

(From our correspondents)

PAKISTAN

New Line in North West

The Government has sanctioned the construction by the North Western Railway of a broad-gauge line from Mardan to Charsadda, about 17½ miles, in the North-West Frontier Province.

SOUTH AFRICA

Suburban Traffic Increase

Of 117,341,986 passenger journeys by suburban services during the six months ended March 31, nearly half were in the Johannesburg suburban area. Non-European suburban travel was well maintained and caused some difficulty, as most journeys were made during the early morning and late afternoon peak periods and mostly between the city and the non-European residential areas on the southern perimeter.

The Cape Town suburban area was second to that of Johannesburg in point of numbers with 42,313,898 journeys and Durban third with 9,617,224; Port Elizabeth recorded 3,934,489 and Pretoria 3,830,820.

During the six months ended March 31, 1952, suburban passenger traffic was considerably heavier than during the corresponding period of 1951, when 112,251,661 journeys were recorded.

CANADA

Ontario Northland Dieselisation

A start on construction of a modern diesel repair and service shop at Cochrane is contemplated early in October by the Ontario Northland Railway. Tenders have been called for. This will be the second diesel shop to be built under the O.N.R. complete dieselisation pro-

gramme. The completion date for the programme is 1955, when the O.N.R. hopes to have 38 diesels in operation; it now has 22.

A major diesel repair shop at North Bay is due for completion early in 1953 at the latest. The Cochrane shop is expected to be completed by the end of 1953.

BRAZIL

Rio Grande do Sul Railway

The Legislative Assembly of the State of Rio Grande do Sul, by agreement with the Federal Government, has authorised the contract of lease of the Viação Ferrea Rio Grande do Sul to be rescinded. The undertaking will now revert to federal administration.

FRANCE

Gas-Generator Locomotive

The first French-built gas-generator turbine locomotive made a successful trial run of 128 miles from Paris to Cambrai on September 4. With a load of 250 tonnes (nine coaches), it left Paris at 8.30 a.m. and reached Cambrai at 12.12 p.m. It is announced that the locomotive will start working regularly between Paris and Cambrai in the winter service. A preliminary test was made on a run between Paris and Versailles on July 9, when it was placed at the disposal of the S.N.C.F. by its makers, the Régie Nationale des Usines Renault and the Soc. Industrielle Générale de Mécanique Appliquée. After leaving the Renault workshops it had been tested in numerous trips on the Paris-Granville line.

The locomotive (to which editorial reference was made in the July 18 issue) is of the B-B type weigh-

ing in working order 54 tons, and 53 ft. long overall, with 35½ in. wheels, a bogie wheelbase of 8 ft. 6 in., and a bogie pivot pitch of 29 ft. 6 in. The diesel engine is used merely to provide exhaust gas which is used to drive a gas turbine, which in turn drives the running wheels. The nominal designed output is 1,000 h.p.

WESTERN GERMANY

Transport Exhibition in Munich

Preparations are in hand for the German Transport Exhibition to be held in Munich from June 20 to October 11, 1953. The Federal Railways propose to feature their plant and activities and their display will include models of locomotives, rolling stock, and signal equipment.

JUGOSLAVIA

New Line to Adriatic

Work is to begin next year on a 310-mile line to link Belgrade with Bar, on the Adriatic, where a new port is to be built at a cost of about £1,334,000.

Nearly 400 ft. of breakwater have been constructed at Bar, and if the National Assembly accepts the proposal that large-scale work should start next year, the port should be able to handle ships of all sizes and tonnages by 1954.

The construction of the railway is expected to take up to six years. The line will have to be driven through the mountainous terrain of south Serbia and Montenegro. Tunnels will cover about 50 miles, or 16 per cent. of the route, with the longest about five miles. The distance from Belgrade and the grain areas of the Vojvodina to the Adriatic will be cut by about 84 miles, or 20 per cent., from eastern Serbia by about 200 miles, or 37 per cent., and from Macedonia and south-west Serbia by up to 264 miles, or 50 per cent.

It is estimated that the new railway, which is to be built in stages to ensure adequate financial resources and full use of the construction machinery to be purchased abroad, will open up 29,000 sq. km. of country bounded by Sarajevo, Chachak, Rossovska-Mitrovica, Titograd and Gabela, which at present has no railway and only rough roads.

The railway will permit rich timber areas in the Drina, Lima and Ibar Valleys, through which it will pass, to be exploited, and it will also pass through the valleys of Kolubara and the western part of the Moravo River, which are potentially rich agricultural and fruit-growing regions. The coal basins in the Kolubara valley and round Plevlje will be opened up, and, initially, the railway is expected to move 500,000 tons of coal from there to Belgrade every year. In Montenegro substantial deposits of bauxite await exploitation and there are lead and zinc mines and large areas of virgin forests. Oil has been struck near the Bay of Bar.



French-built gas-generator-turbine locomotive about to start a test run on the S.N.C.F. between Paris and Versailles

Development of Exmouth Junction Wagon Shops

Continuous process for de-scaling and painting of steel underframes and all-steel wagons



Removal of the wagon body from its wheels and axles

EXMOUTH Junction wagon shop was used originally for carrying out light repairs to railway-owned wagons which became necessary on the old Southern Railway between Salisbury and Plymouth and on the old North Devon and Cornwall branches. The shop carried out this function for many years, and because the Southern Railway owned only 35,000 wagons, heavy repairs could be coped with adequately at its main works at Ashford and Eastleigh respectively.

With the take-over after the war of privately-owned mineral wagons by British Railways, and the necessity to

overtake the maintenance accruing on these wagons during the war period, it was decided that the wagon repairing facilities in the West of England were inadequate to meet the changed conditions. Exmouth Junction was considered to be suitably situated for this purpose and, in view of this, together with the potential of a shop of this size, it was agreed this shop should be developed to cover the repair requirements in this area.

To adapt the shop to this task entailed moving back part of the wall on one side of the shop to form an annexe which was subsequently converted into a machine bay; on the

opposite side a portion of the shop wall was removed to permit the installation of a traverser to feed the progressive layout and the provision of such machines as a wheel lathe, overhead crane, air compressor, wood-working machinery, and other ancillary equipment, including a petrol-driven Locopulseur shunting machine.

One of the principal difficulties was the recruitment of staff, as the area concerned was completely devoid of skilled wagon repairers. This problem was met by introducing a nucleus of qualified carpenters who were trained to deal with the marking-out, and frame and body assembly sections, with unskilled labour being adopted to take over the semi-skilled stripping section.

With the introduction of an internal promotion scheme the men proved very adaptable and excellent results were obtained, the output of heavy repairs exceeding an average of over 60 wagons per week—the original target figure.

Some measure of the success of the scheme can be gauged by the fact that immediately prior to its introduction there were 7,000 wagons berthed in traffic sidings in the area all requiring heavy repairs, the majority of which had been stabled for long periods. By the end of 1951 the whole of these had been cleared and the shop was not only dealing with current wagons in its own area but was affording relief to more congested districts east of Salisbury.

In the meantime, the type of wagon stock operating on British Railways was altering rapidly, the old wooden-frame wagons being replaced by either steel frame or all-steel wagons. This brought new problems of maintenance, particularly in regard to the effect of corrosion on the life of the wagon. After due examination of this aspect by

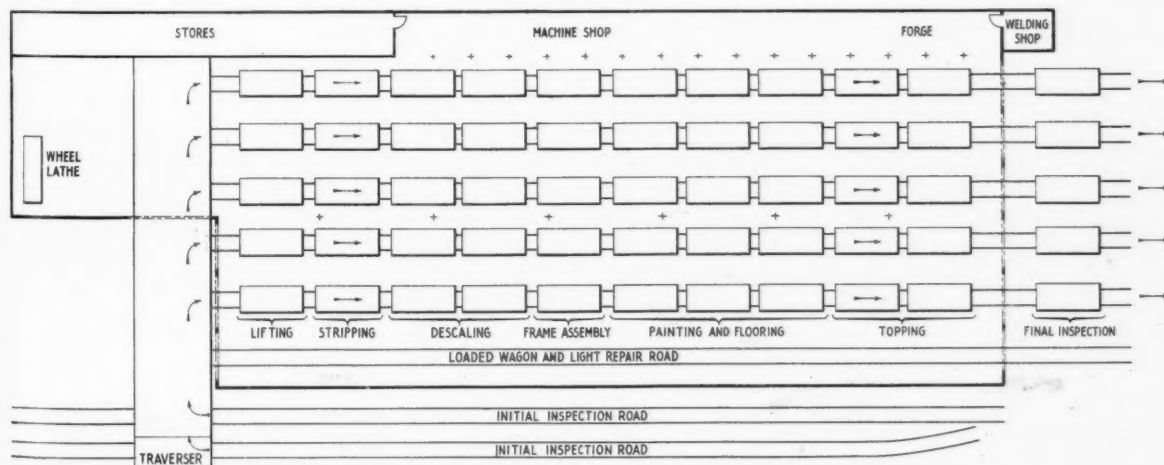


Diagram showing the flow of wagons undergoing repairs

all Regions, the Railway Executive decided that the only way to ensure maximum useful life was to remove all scale and corrosion from the vehicles at fixed periods and then apply suitably protective paint, and in pursuance of this policy experiments were carried out at Ashford, Exmouth Junction, and New Cross Gate.

The results of these experiments indicated that the work could be undertaken successfully at all three places, and as there was still an accumulation of steel frame wagons requiring heavy repairs on the Western Region, it was decided that Exmouth Junction should be given priority of development in order to afford some measure of relief in that area. Accordingly, the change-over was made and Exmouth Junction became the first depot on British Railways to be devoted entirely to the de-

Each of these roads have 10 wagon lengths of working room and to provide the necessary balance it has been found that the 10 spaces are best allocated as follow: Lifting, 1 length; stripping, 1 length; de-scaling, 2 lengths; frame straightening and assembly, 1 length; painting and floor laying, 3 lengths, and body assembly, 2 lengths.

Method of Operation

The wagons are placed in two roads adjacent to the shop where initial inspection is made of each wagon and repair documents made out. Access to the shop is by means of a surface traverser and after initial inspection the wagons are placed into the shop on the respective roads in rotation for the necessary repairs to be carried out.

The first operation, lifting of the body, is carried out by overhead crane with a

possible to get at many of the gussets and brackets on the frame. The maximum use of compressed air tools is applied, with rivet busters, chisels, and so on; the average time for each wagon in this section is four hours.

After stripping, the wagon passes to the de-scaling stage. In this section the underframe is thoroughly de-scaled by compressed air tools, and the axleguards, brakework, and body ironwork are cleaned off by wire brush. The compressed air tools used consist of triple-head and single-head hammers and chipping chisels, with the triple-head hammers being used on the flat, easily-reached surfaces, and the single-head hammers on the less accessible places.

The next stage is devoted to frame assembly and straightening. A special feature of this stage is the very high proportion of straightening carried out cold and *in situ*. This is done by a series of rams operated by a Monoradial hydraulic pump and includes the straightening of double bends in solebars, bent headstocks, middlebearers, longitudes, and diagonals. Any riveting required is carried out at this stage and a further development has been the introduction of considerable welding *in situ* by portable electric welding plants, which practice has enabled the average time spent in this section to be reduced to an average of two hours.

From this stage the wagons pass to the combined painting and floor-laying stage. The time allowed for these operations is six hours during which two coats of paint are applied and a complete floor laid. The first coat is of red oxide or similar protective paint and the second coat is of black enamel. Synthetic paints are applied giving an extremely quick drying time, and where, if necessary, the second coat can be applied "wet on wet" without destroying the protective quality of the priming coat. In addition to laying the floor at this stage the wagon-makers refix buffing and draw-gear.

After completion of this work the wagon moves forward to its last operational stage, top assembly and painting of body ironwork. Fixed staging is erected for the convenience of the staff, and the maximum use is made of both compressed air and electrical portable tools for the boring and nut running operations. All body ironwork is wire-brushed and one coat of grey paint applied. The average time spent in this stage is four hours.

This completes the actual work done to the wagon, which passes through the shop in 2½ working days. Wagons are placed outside the shop for checking off of piecework, final inspection, weighing, re-taring and any necessary lettering.

D.T.A. ROLLING STOCK REQUIREMENTS.—On behalf of the railway industry, the U.S.A. Defense Transport Administration has submitted the following rolling stock and materials requirements for the first quarter of 1953: 31,500 wagons (other than tank wagons), 1,500 tank wagons, 100 passenger coaches, 936 locomotive units, and 450,000 tons of new rails.



De-scaling the wagon underframe using a triple-headed hammer

scaling and painting of steel frame and all-steel wagons.

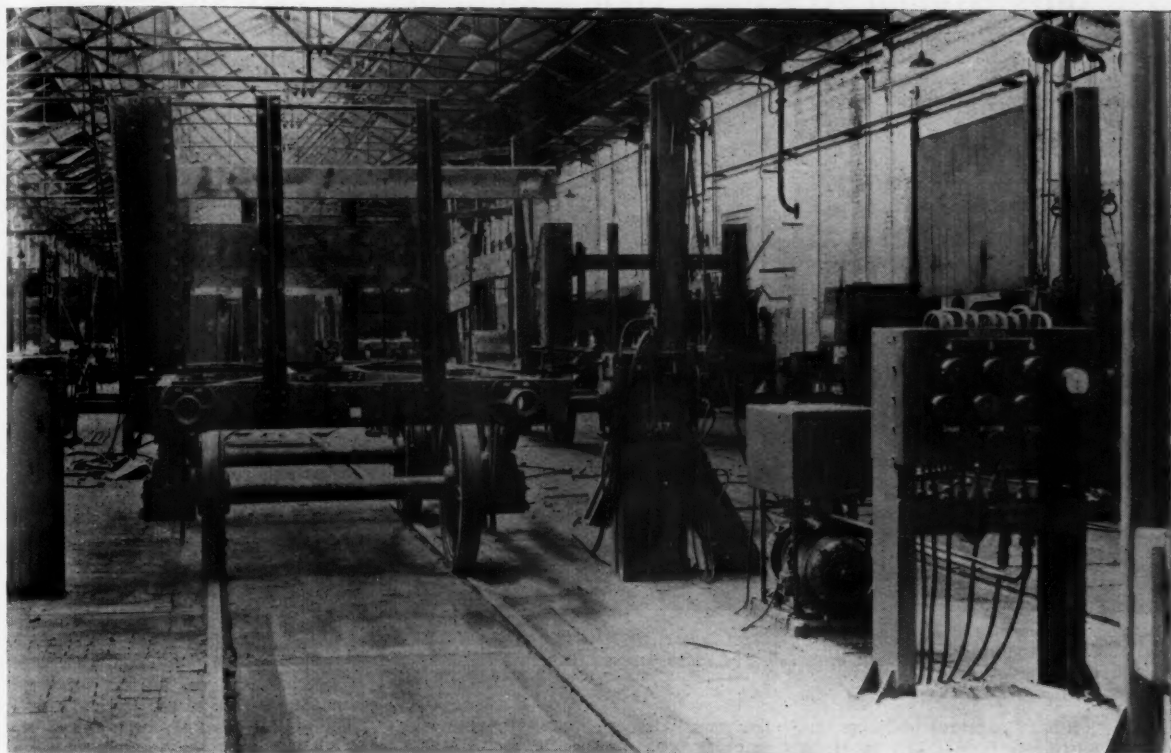
Works Layout

New machines which had to be installed included a Monoradial hydraulic pump with rams (the latter equipment having been designed at Ashford specially for the purpose), and additional radial drilling machine, a punching and shearing machine, a screwing machine, and an air compressor with the necessary portable compressed air tools.

This change was even more revolutionary than the initial development of the shop. After initial experiments the general layout of the shop has settled down in accordance with the plan shown in Fig. 1, which means that of the 6 roads in the shop, No. 1 road is set aside for dealing with loaded wagons (which are mainly stopped for hot boxes), and the other 5 roads are laid out to operate on progressive lines.

four-point lift, and is transferred to previously prepared wheels and axleboxes which have been placed on the adjacent road. This method confines the operations carried out in this section to the removal of axleguard bridle bolts, one upward lifting movement, one traversing movement, one dropping movement and the replacing of the bridle bolts, and has enabled the time taken for a complete lift to be confined to 24 minutes, the period allowed for the operation.

On completion of the lifting the wagon is moved forward to the stripping section where all defective parts and the floor are removed. In addition to the stripping of defective parts, all the buffing gear and drawgear is removed and transferred to the frame assembly section and re-assembled at a later stage. The removal of these parts has been found necessary to enable the de-scaling and painting to be properly carried out as with these parts in position it is im-



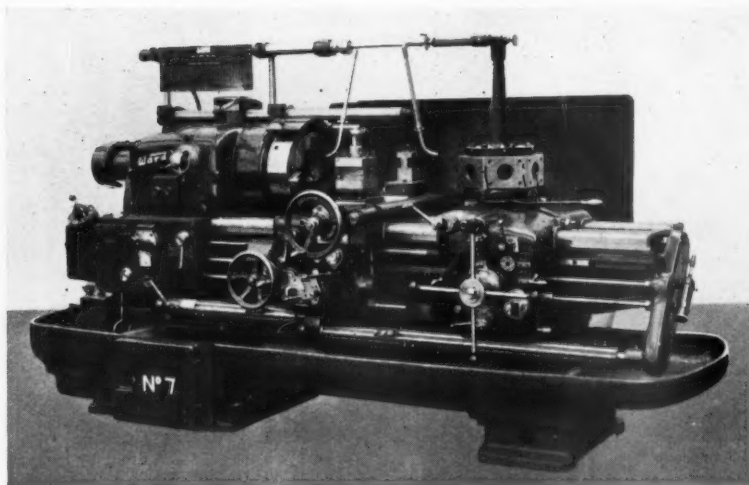
Hydraulically operated rams for solebar straightening



General view of shop

International Machine Tool Exhibition at Olympia—2*

Display of forging presses, drop hammers, guillotines and other types of machine tools



Ward No. 7 Prelector combination turret lathe, fitted with hydraulic pre-selecting speed changing

A SERIES of capstans and combination turrets is exhibited by H. W. Ward & Co. Ltd. and includes the No. 7 Prelector combination turret, with a pre-selecting headstock. Twelve forward and reverse speeds to the spindle provide a range of 25 to 1,000 r.p.m. A patented hydraulic pre-selecting speed changing system gives rapid changes from any one speed range to another. This device allows also for a simultaneous change of speed and direction of rotation.

Two concentric dials are provided, one graduated for the speed range, the other marked with three positions: forward; reverse; free. At any time when the machine is running the dials can be rotated to set the required change of speed and/or direction. A single lever on top of the headstock actuates hydraulic valves and move sliding gears to give pre-selected speed. With this pre-selecting device the operator can set the dials for his next operation, and change speed by the movement of the lever. Automatic lubrication is provided to all moving parts.

Precision threading is one of the features of the HLV lathe exhibited by Hardinge Machine Tools Limited, a member of the Sheepbridge Group of Companies. The separation of the power feed reserves the gearbox and lead screw for threading only. Standard threads, including pipe threads, 27 in all, are immediately available through the gearbox. Independent variable electric feed is provided to the carriage and cross slide; this is possible by simply changing a control knob to

the feed change required while the machine is in motion.

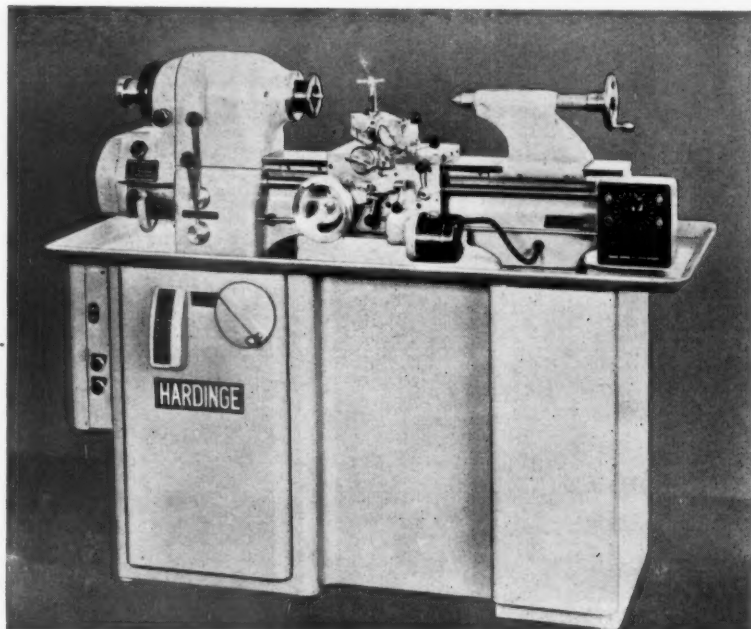
The dovetail bedway is in one piece of steel hardened and ground, and provides a precision edge for aligning the headstock, carriage and tailstock; the carriage is full bearing. The HLV lathe has been designed to bridge the gap between the plain precision lathe and the heavy-duty engine lathe. The swing over bed, carriage and cross slide is 11

in., 9 in. and 5½ in., respectively, and the distance between centres 20 in. maximum. The collet capacity is 1 in. round, ¾ in. hexagon, and ¼ in. sq. The machine has a welded, steel base. The electrical equipment includes a magnetic electric control panel for push button control circuit; time lag thermal overload relays provide overload protection. Low voltage protection is also provided, together with quick make-and-break, forward, and reverse switches.

Vertical Milling Machines

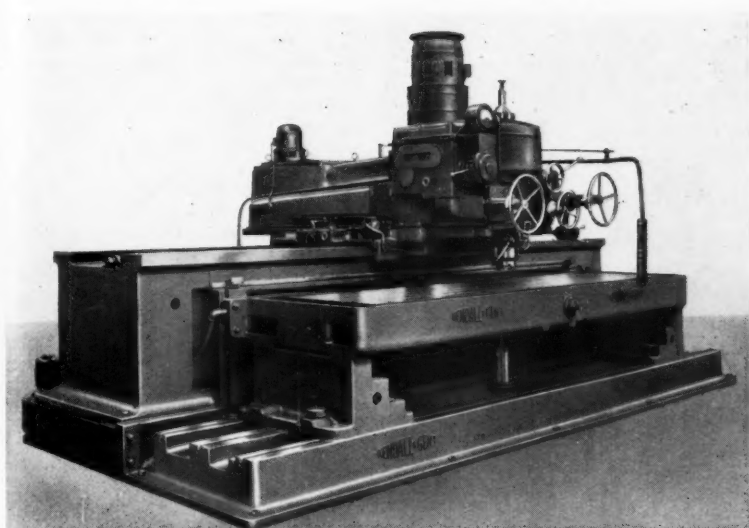
Kendall & Gent Limited is exhibiting a range of plano-milling machines, vertical milling machine and also a range of Kenco screwing machines of varying capacities. The milling machines exhibited by the firm include a T.H.M. 40 traversing head vertical miller, a feature of the design is the ease with which the machine can be loaded and unloaded. The design is based on a prototype manufactured some three years ago, and has been redesigned as a result of experience gained by the firm from the productive use of the original model.

The milling head has been extensively remodelled, principally to achieve higher power and ease of control. A 30/30-h.p. two-speed motor has replaced the 15-h.p. motor used on the original model, the slip gears in both feed and speed boxes have been eliminated. Controls are centralised, and a pendant carrying all electric push-buttons has been fitted. The milling head is entirely self-contained, the spindle gear-



Hardinge HLV type centre lathe designed for precision threading

* Part 1 appeared in our issue of September 19



Kendall & Gent vertical milling machine designed with traversing head for ease of loading

box gives eight changes, which together with the two-speed motor, provides a range of 16 separate speeds, 15 to 310 r.p.m. Eight changes of feed are obtained, from 2 in. to 24 in. per min.

Rapid power traverse of 45 in. per min. is provided for setting purposes.

A series of forging presses, drop hammers and forging hammers is exhibited by B. & S. Massey Limited,

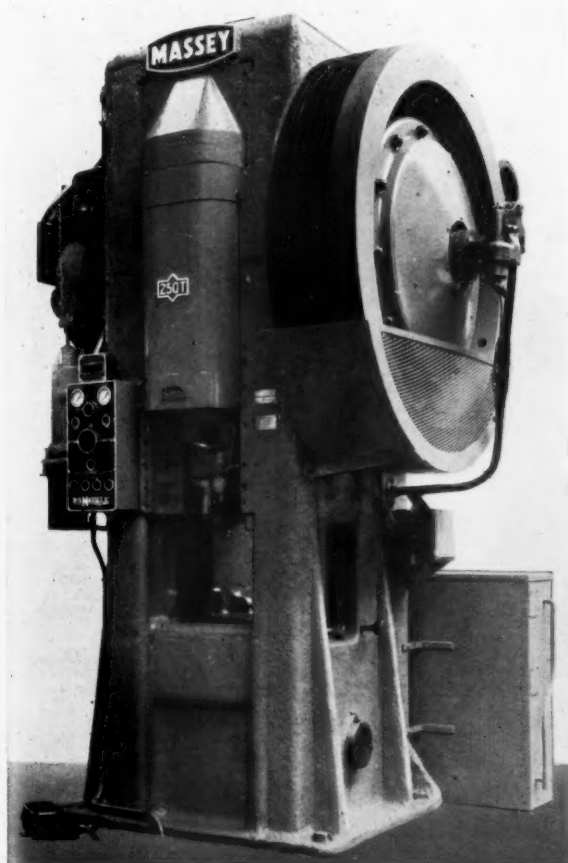
among which is the Marathon drop hammer. Of recent design, the Marathon drop hammer has been designed to meet conditions pertaining to mass production methods of forgings which require a considerable degree of accuracy.

Among the features embodied in the design are accurate location of standards on the anvil block; screw-adjusted slides; and flexible anti-vibration mounting of the headgear.

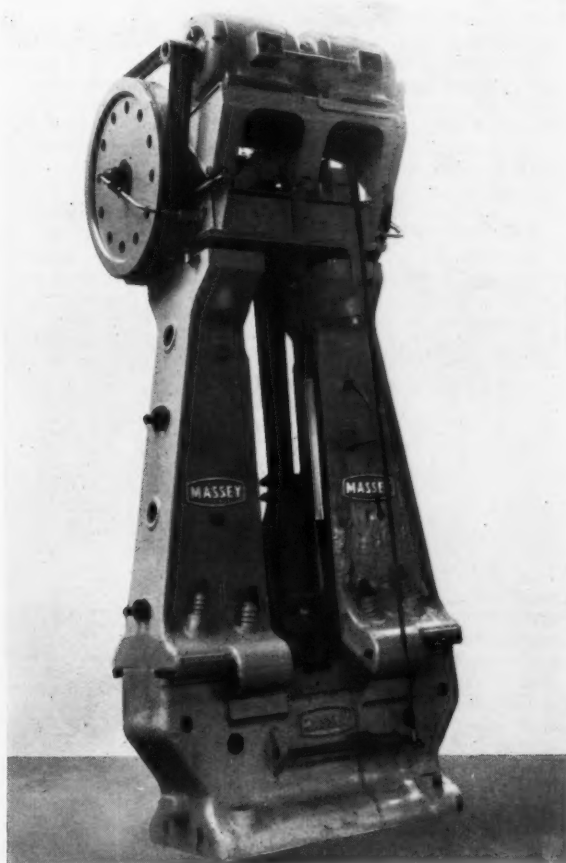
This type is made in three sizes, 10 cwt., 15 cwt., and 20 cwt., the maximum size of tup, excluding die, is 4 cwt., 6 cwt., and 8 cwt., respectively; and the maximum stroke of 4 ft. is the same in each case.

Accurate alignment is provided by rigid attachment of the standards to the anvil block; these are secured by manganese molybdenum steel bolts with spring shock absorbers, securely locked by steel keys. The keys are lubricated and easily replaced when worn.

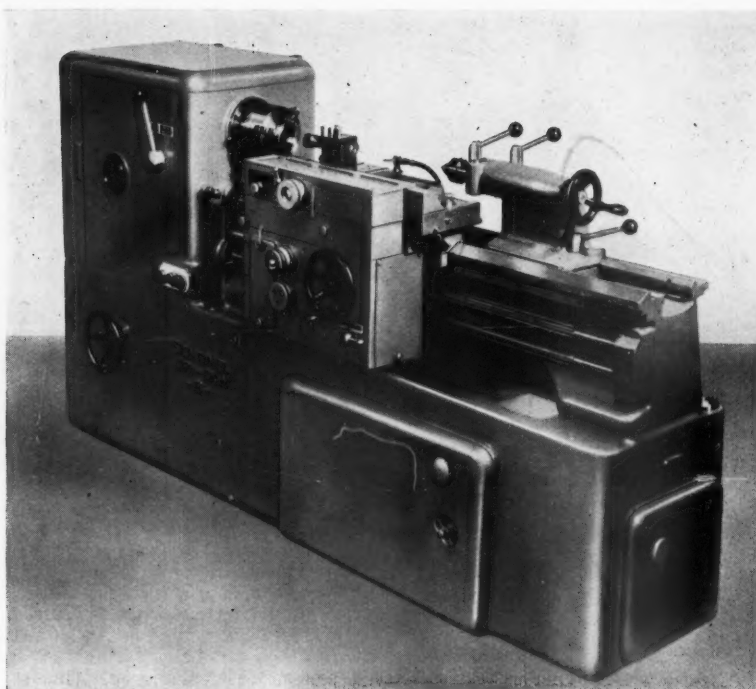
The headgear, which is of welded steel construction, is flexibly mounted on the tops of the standards by means of large rubber mountings, and the transmission of vibration from the standards is virtually eliminated. The lifter shaft runs in self-aligning roller bearings, and the lifter arm is mounted on



B. & S. Massey 250-ton high-speed forging press



B. & S. Massey Marathon 10-cwt. drop hammer



Sentinel (Shrewsbury) Limited "B" type Cri-Dan, semi-automatic high-speed threading machine

roller bearings. The standard method of control is by Simplex automatic gear, actuated by pedal, enabling the operator to strike automatic blows of a constant predetermined stroke and force; the length of stroke and point of pick-up is easily adjusted. During die setting the automatic gear can be locked and the stamp controlled by hand cord.

Semi-Automatic Threading Machines

A series of Cri-Dan high speed semi-automatic threading machines, designed for the use of single point tungsten carbide tools is being shown by Sentinel (Shrewsbury) Limited. Four different designs are shown, with capacities up to 4 in., 6 in., and 12 in. diameter. Cri-Dan model B, has a maximum swing over saddle and bed of 4 in. and 13 in. diameter respectively, and length between centres of 3 ft.

The maximum threading diameter is: external 4 in., internal 6 in.; this latter is for short pieces only. A 5 h.p. motor suitably housed is coupled to a Sentinel F.U. variable speed unit. This unit is easily adjusted to give the most suitable speed for any work by means of a hand-wheel; the speed is registered on a tachometer. A speed range of 200 to 3,600 r.p.m. is available.

The drive from the gearbox to the spindle is transmitted by chain through an intermediate shaft to a hand-operated multi-plate clutch which is automatically disengaged when a thread is completed. A hand lever which controls the clutch also operates the collet mechanism; one movement only is required to grip the work in the collet and to set the machine in motion.

The drive to the tool slide is through gearing from the main-spindle to the feed shaft and thence to the camshaft; the cam, secured to the end of the feed shaft determines the length of thread to be cut. One revolution of the cam completes one cycle of the cutting tool, 240 deg. of its periphery is used for traversing the tool on its cutting stroke, the remaining 120 deg. is used for the return stroke. A recoil cam withdraws the tool automatically from the work.

The total gear ratio from the spindle to the slide equals the number of threads per in. to be cut, multiplied by the lead of the cam. This ratio determines the speed of the spindle in r.p.m. to the

speed of the slide in passes per min.: a 12-1 gear reduction is built into the machine. For metric pitches, cams with a metric lead must be used. A chart is supplied giving ratios for all standard pitches.

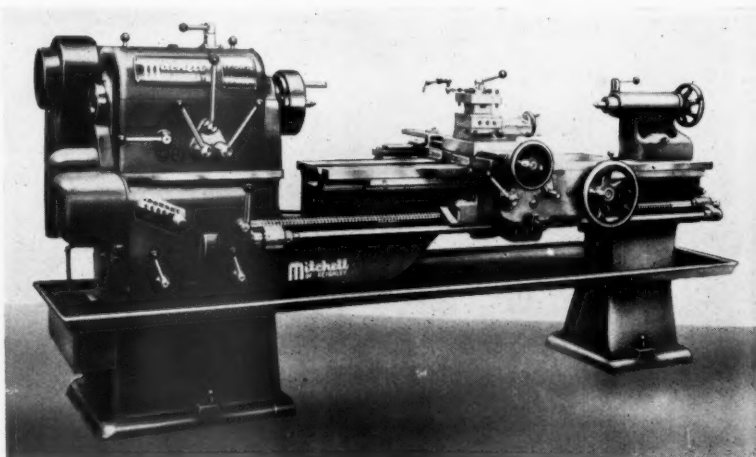
A control lever fitted on the end of the headstock permits the motor to be reversed, and left-hand threads can be cut without reversing the camshaft or altering the ratio. When cutting multi-start threads the feed operates after all starts have been cut; for example, with a six start thread a cut is taken in each of the six starts before the feed operates, then the six starts are again cut; and so on until the final depth is reached. Multi-start-threads from two to twelve starts can be cut. Taper threads up to 25 deg. inclusive can be cut.

General Purpose Lathes

In conjunction with Morrison, Marshall & Hill Limited, D. Mitchell & Co. Ltd. is showing the 8½ in. and 16½ in. centre lathes. The 8½ in. lathe has a swing over the ways and saddle of 17 in. and 12 in. respectively, and swings in the gap near the faceplate 32 in. × 9 in.; the distance between centres is 8 ft. The spindle is hollow with 3½ in. dia. hole. A Norton gearbox is fitted and provided with nine change wheels, and 24 changes can be made without altering change wheels, through tumbler gear and two levers.

All Whitworth pitches from two to 28 threads, metric threads from one to 14, and feeds from 14 to 196 cuts per in. are obtained without interfering with change wheels; both feeds and screw-cutting are interlocked, therefore, preventing accidental engagement. A taper turning attachment can be fitted, having a maximum taper per ft. of 1⅝, turning at one setting, 10½ in.

The 16½ in. centre lathe is of somewhat similar but heavier construction and higher capacity. This machine has a swing over the ways and saddle of 33 in. and 25 in. respectively, swings in the gap 61 in. × 18½ in. and is 9 ft. 3 in. between centres; the spindle is hollow



Mitchell centre lathe, fitted with Norton gearbox

with 4½ dia. hole. A taper turning attachment can be supplied, taper per ft. 1½ in., turning 20 in. at one setting.

A series of lathes, including general purpose, surfacing and boring and toolroom precision lathes, is shown by Dean Smith & Grace Limited. All types embody the most advanced practice in heat treatment, gear tooth grinding and pre-loaded taper roller bearings for maintaining accuracy of the spindle. A totally enclosed multi-change gearbox is provided with patent dial control and pump lubrication; a middle bearing is fitted to the spindle to give extreme rigidity under cutting load.

Electric control gear is built into the bed making the machines self-contained, while the apron is totally enclosed with pump lubrication and reverse gear for feeds, the rack pinion and handwheel shaft are mounted on ball bearings and provide easy traverse. The saddle is guided on an inverted vee type bed and is fitted by wipers to exclude swarf.

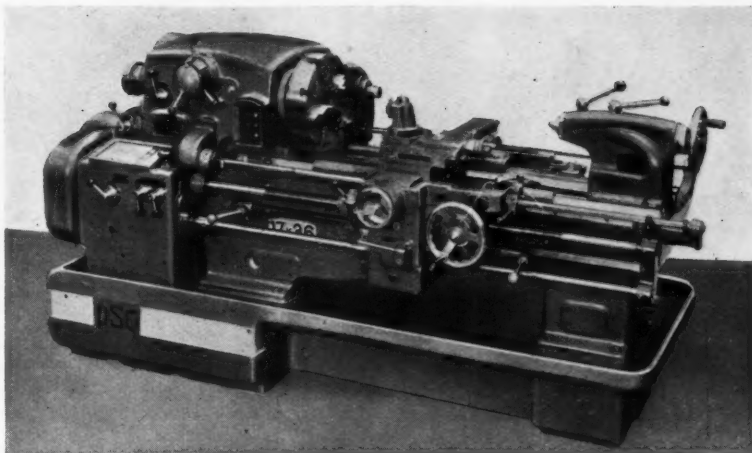
The 17 in. precision toolroom lathe is provided with a hollow spindle for taking work up to 2½ in. diameter. A draw-back type collet chuck with collets up to 2 in. maximum diameter can be provided, also relieving and taper attachment and relieving toolholder. Sliding feeds 14 to 800 cuts per in. and surfacing speeds 28 to 1,600 cuts per in. are provided.

The 36 spindle speeds have a range from 3.9 to 720 r.p.m., with 12 reverse spindle speeds to 6.9 to 720 r.p.m. Change gears will cut from 2 to 112 threads per in. and inches pitches up to 7 in., and 6 with extra change gears metric pitches 0.5 to 140 mm. Extra change gears as additional equipment can be supplied for cutting diametral, module, and special threads.

A multi-purpose Weipert production lathe, type PR11R, is shown by Wickman Limited as agents. Of rigid construction the lathe is designed for the use of hardmetal cutting tools. The drive is by vee belts from a single-speed electric motor mounted in the left-hand pedestal. Hardened and ground sliding gears providing eight speeds in geometrical progression of 1.41 are used in the headstock. The multi-spline shafts are milled from the solid, and carried on anti-friction bearings.

The main spindle, of sturdy construction, is operated by an adjustable plate-clutch; an automatic adjustable brake is used for rapid stopping. Adjustable anti-friction bearings are used for the main bearings, and end thrust is taken up by thrust bearings. Splash lubrication is provided, oil level being checked through a sight glass. Speed changes are by levers, interlocked to prevent unintentional operation.

The apron contains the feed-reversing gear, the drop worm for disengagement of the feed, and the control for longitudinal and cross feed. A special clutch is provided which automatically disengages the feed in the event of unintentional overrun of the carriage. A rotatable shaft with six adjustable stops permits economical turning of com-



Dean, Smith & Grace 17-in. swing precision toolroom lathe, with dial control

ponents with shoulders. The bed slide-ways are of wear-resisting, close-grain cast iron, stress relieved to ensure continued accuracy.

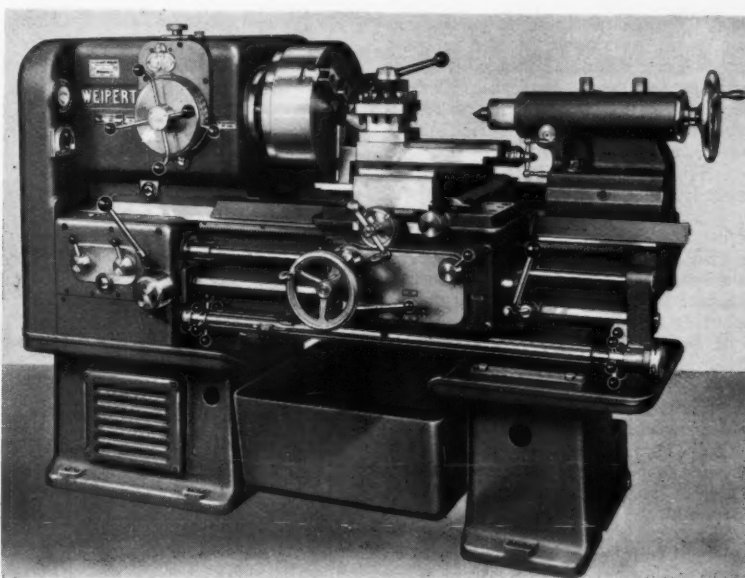
Swing over bed and saddle is 18½ in. and 8½ in. respectively, and the main spindle bore 2½ in. Various types of toolholders are available including multiple, and double toolholders, square turrets and so on.

Milling Machines and Gear Cutters

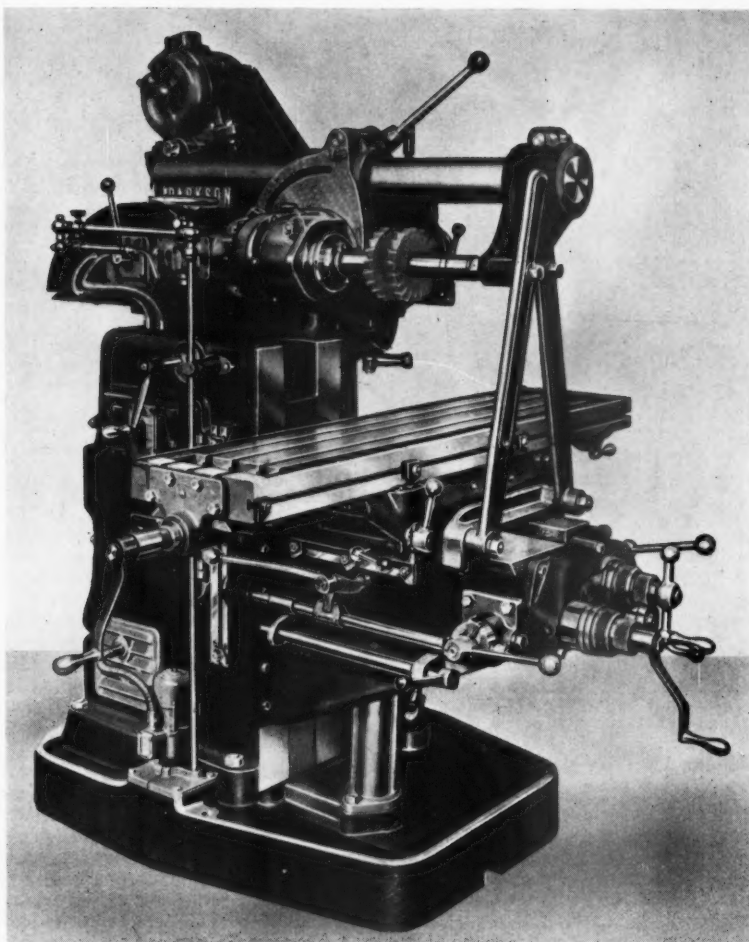
The exhibits of J. Parkinson & Son (Shipley) Ltd. include a series of universal milling machines, Sunderland gear planers, and cutter sharpeners. Among the milling machines is the Parkson, Adapta model N, which can be fitted with adaptor heads for angle and slot milling; the overarm and outer arbor support can be removed when the machine is not used as a horizontal miller.

The cutter head is carried on a ram which fits in slideways on top of the column and has hand adjustment by rack and pinion of 19 in. by cross movement over the table. This movement, combined with the 10½ in. cross traverse of the table, enables the cutter spindle to cover an area 29 in. wide. A further advantage of the adjustable ram is that short arbors need be used for horizontal milling.

The spindle is driven through vee-belts by a 2 h.p. reversible motor interlocked with the 1 h.p. motor which drives the feed or traverse motions of the table; the traversing motor cannot run unless the spindle motor is running. Start and stop control is duplicated by levers on each side of the arm, and operating a push-button switch. After passing the stop position, the levers operate a friction brake to bring the spindle to rest.



Weipert "PR11R" production lathe designed for the use of tungsten-carbide tipped cutting tools



Parkson Adapta milling machine, model "N"

There are 12 rates of spindle speeds from 43 to 1,000 r.p.m. in each direction, easily obtainable by sliding gears and two crank handles situated near the front of the ram. There are 12 rates of power feed and rapid traverse for all table movements; a safety device is provided in the form of a shearing pin which prevents breaking of gears. Automatic lubrication is provided and micrometer dials are fitted to all traverse screws.

Two Sunderland gear planers No. 23 and No. 19 are on view. The former machine is designed for planing double helical gears up to 24 in. diameter by 4 in. face, 4 D.P. Each cutter slide is driven by a solid forged, heat-treated crankshaft; the shafts being geared together so that they move the slides and bring each cutter alternately to the central plane of the wheel. The number of strokes per minute to suit different materials is varied by pick-off change gears running at fixed centres.

The No. 19 machine is designed for spur and spiral gears and has a capacity up to 56 in. diameter by 9 in. face, 1½ D.P., Mod. 16. This size is now made only for motor drive by 10 h.p. flange mounted motor at approximately

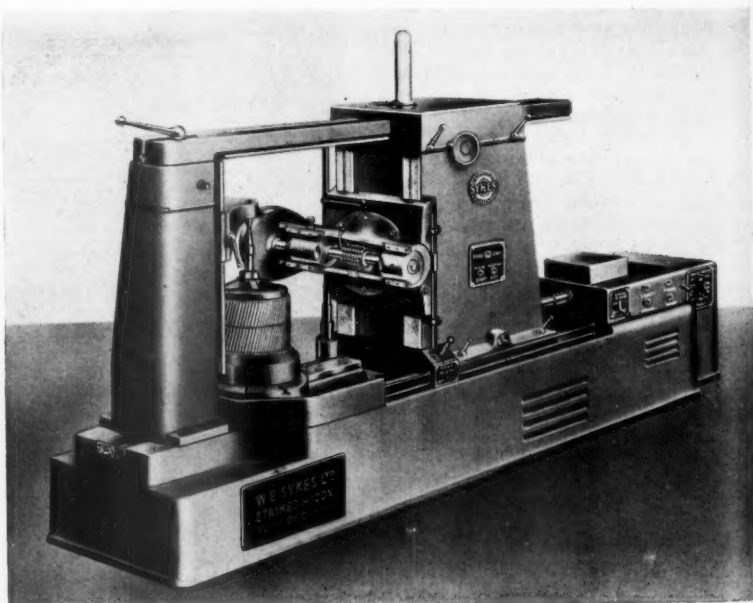
950 r.p.m. It is also now made with self-contained motor driven power traverse to move the cutter head along the bed. For this purpose a 1 h.p. totally enclosed reversible motor at 1,430 r.p.m. for a.c. standard voltage 3 phase 50 cycles is used and is included in the regular equipment.

W. E. Sykes Limited have included in their exhibits a series of gear generating, hobbing and gear shaving machines and cutter sharpening fixtures. The V.4 vertical gear generator produces external and internal spur and helical gears up to 45 deg., and 16 D.P. with a maximum of 4½ in. diameter and 7 in. face; when fitted with rack cutting attachment the machine produces racks with either straight or helical gears.

Model V.10A vertical gear generator has a capacity of 14 in. dia., by 2½ in. face, and 6 D.P. and produces a similar range of external and internal gears to that produced by the V.4 model. Rack cutting attachments are available in 12 in., 24 in. and 36 in. sizes; a separate attachment enables contraire gears to be produced. Large micrometer drums facilitate setting, and the automatic in-feed can be set to finish the work in one, two, or three stages. On completing its cycle the machine stops and the work retracts.

The No. 3C horizontal multi-cutter gear generator, with automatic infeed, represents a range of machines having capacities up to 66 in. diameter and 18 in. face. These machines generate external and internal spur and helical gears up to 45 deg., continuous and staggered-tooth double helicals and splines.

Two new universal hobbing machines are also exhibited—model HV.24 has a capacity of 24 in. diameter by 15 in. (Continued on page 354)



Sykes universal hobbing machine, model "HV.24," with a capacity of 24 in. diameter by 15 in. face

Stainless Steel Trains for Algeria

Six types of carriages with common constructional features

AS part of its general post-war modernisation programme the Algerian Railways (C.F.A.) some time ago ordered from the Etablissements Carel Fouché & Cie. a total of 60 main-line coaches on the Budd stainless-steel Shotweld system, for which Carel Fouché holds a Budd licence. All these carriages have now been delivered, and are being hauled in set trains by diesel locomotives, or on fast schedules by the 1,470-h.p. De Dietrich Sulzer-engined *fourgons*, such trains in Algeria being known as the "Inox," from *inoxydable*, or stainless.

The order comprised six different types of accommodation and interior arrangement as follow:—

- 18 third class coaches, series C10myfi
- 16 first and second class coaches, series A3B5myfi
- 5 first and second class coaches with *couchettes*, series A3c2B5c3myfi
- 7 third class coaches with bar, series C5myfi
- 11 second class brake composites, series B4Dmyfi
- 3 first class drawing room cars with easy chairs

Conditions of the specification were: reduced weight, if possible to a weight below 30 tons, but with strength and resistance comparable with the modern steel coaches of the French National Railways; good heat and sound insulation; incorporation of French National Railways standards for parts subject to wear, such as bogies, brake gear, and so on, with a view to obtaining spares and replacements easily; a good standard of comfort and interior decoration.

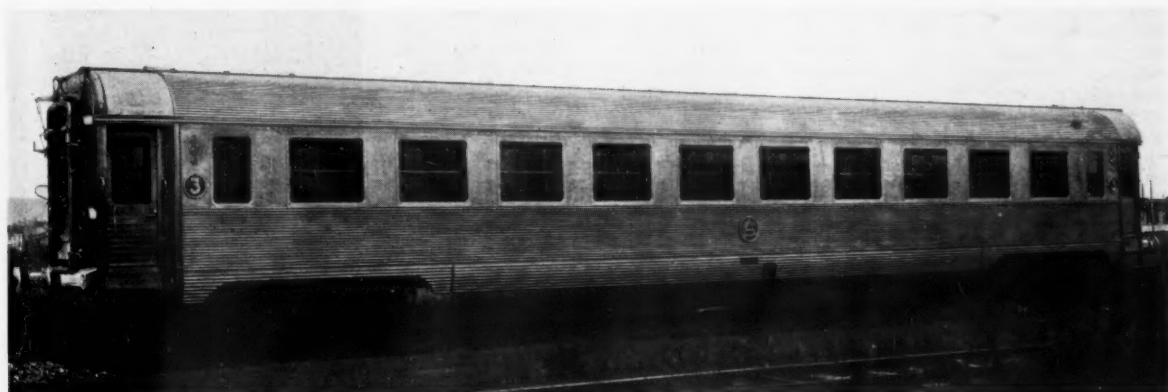
Apart from any considerations of strength and weight, the C.F.A. preferred rolling stock of stainless steel construction, as a means of countering corrosion of stock along sections of lines by the sea, and on those inland lines where dust storms often contain a fair proportion of land salt.

In the actual coaches, the second class brake composites of series "B4D" weigh

28½ tons empty; the third class coaches and first and second class composites weigh 29½ tons empty. It is considered that with stainless steel the weight of the stress-bearing framework of the body, which includes the sides, does not amount to more than one quarter of the total coach weight; the weight in this case is 7½ tons.

From the point of view of strength, on July 30, 1951, the last coach of an Oran-Algiers *rapide* became derailed on straight track at 115 km.p.h. (70 m.p.h.), and continued some 200 yd., still at 60 m.p.h., struck the abutments of an over-bridge and then ploughed on over the ballast for another 50-55 yd. Nevertheless there were only two passengers injured sufficiently for them to be detailed in hospital, while several windows in the coach remained intact.

All the coaches of this order have the same length over headstocks, overall



Stainless steel third class carriage for the Algerian Railways built by Etablissements Carel Fouché & Cie

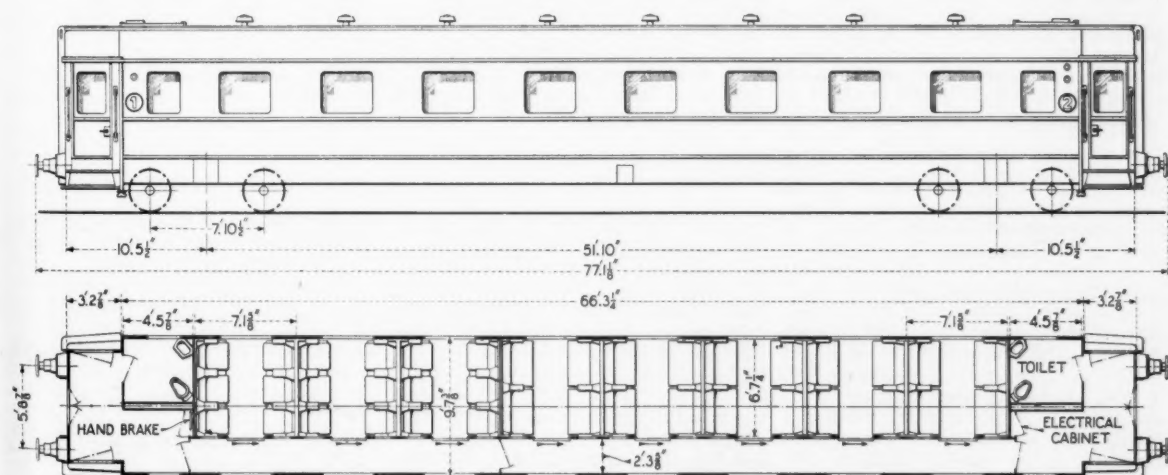


Diagram of first and second class composite stainless steel carriage. Other types of accommodation have the same overall and wheelbase dimensions



Interior of one of the third class compartments

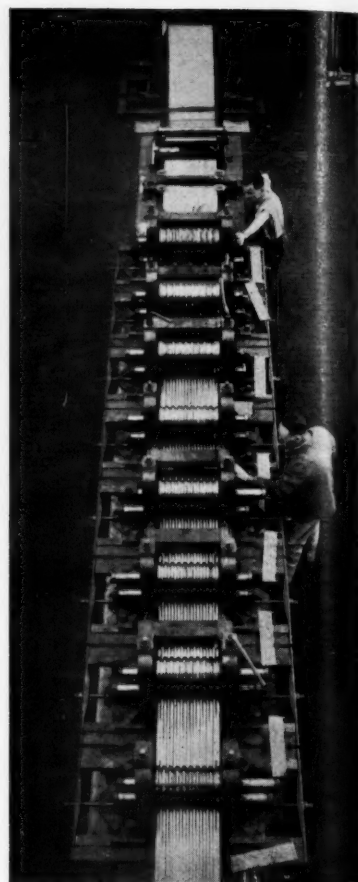
width, bogie centres, bogie wheelbase, bogies, and general frame construction, the dimensions being shown in the diagram on page 353 of the first and second class composite. The extent of the order provided for the economical introduction of certain machines and jigs at the builder's works; and it is said that the price of one of these coaches is only 4 per cent. higher than that of an all-steel coach of normal construction with the same dimensions and accommodation; and, presumably, the same number constructed.

The machines introduced included a bank of rollers for forming cold the corrugations in the sideplates and capable of passing plates 2 ft. wide; a machine for curving plates under tension; and several portable welders for double-point welding with automatic advance. Principally for lightness in weight, the interior partitions between the compartments, and between compartments and corridor, are of plywood 17 mm. thick, with horizontal joints between the panel plates covered with steel strips. Compartment doors are also of plywood.

All interior panels are provided with the necessary brackets and fixings for seats, windows, luggage racks, and so on, before erection, so that mounting in the coach is rapid and the amount of work to be undertaken in half-finished compartments is reduced to the minimum. In the first and second class compartments the panels are covered with a wood veneer; but in the third class are simply painted.

Lighting in compartments, corridor and bar, is by fluorescent tubes fed by 80-cycle three-phase current, but generated by a 2.5 kW. axle-driven 24/30 V. dynamo on each coach, the change from the generated d.c. to the needed a.c. being made by a rotary converter. Though insulation against heat is important in a climate like Algeria's, the builder considered that as the stainless steel exterior reflected much of the heat from the sun, greater insulation than normally provided in France was hardly needed.

Insulation installed includes bakelised glass wool between the ceiling and the roof, and Isover glass wool blankets between the inner and outer side panels.



A bank of rollers for cold rolling side panels at the Carel Fouché works

These blankets are attached by a bituminous-base glue. The four-wheel bogies are of the French National Railways Y16 standard; and buffers, couplings, air and hand brake equipment, and vestibule connections are to post-war S.N.C.F. standards. Steam heating is used, with steam furnished from an oil-fired boiler on the locomotive, and circulating through copper-aluminium radiators with thermostatic control.

International Machine Tool Exhibition—2

(Concluded from page 352)

face, with a maximum of 3½ D.P., and that of model HV.40 is 40 in. diameter by 19 in. face, with a maximum of 3 D.P. Both machines produce spur and helical gears, splines, sprockets, worms, and wormwheels. The hob is mounted on a moving column; the worktable axis remains stationary. Rapid power traverse, which is provided in both directions of column, and hob

slide movement is operated by a single lever; controls are interlocked.

Vernier scales are provided for angular setting of the hob head, a micrometer drum is fitted to regulate the depth of cut. Lubrication is automatic. Optional equipment includes differential feed gear, and an interchangeable axial feed head. The VS.8 gear shaving machine is one of a range of three sizes designed for accurately finishing spur and helical gears up to 18 in. diameter by 5 in. face. Either the underpass or traversepass methods of shaving can be used. A range of precision gear shaper

cutters, hobs, and shaving tools is also being shown.

(To be continued)

LOCOMOTIVE EXPLOSION IN KOREA.—On September 10, the locomotive of a train carrying several hundred schoolchildren and workmen exploded as it was crossing a trestle bridge between Incheon and Yongdongpo, near Seoul, Korea. Several coaches were derailed and two threw passengers into a river. Seventeen children were killed and some 300 persons were injured.

RAILWAY NEWS SECTION

PERSONAL

BRITISH TRANSPORT COMMISSION

The Minister of Transport has, after consultation with the British Transport Commission, re-appointed for a further term of one year, from October 1, the following Chairmen and Members of Executives, whose present appointments as such expire on September 30:—

Docks & Inland Waterways Executive: Sir Reginald H. Hill, Chairman; Sir Robert Leitch, Mr. J. Donovan, Full-time Members; Sir Hector McNeill, Part-time Member.

Hotels Executive: Sir Harry F. Methven, Chairman; Mr. F. G. Hole, Mrs. E. H. Gasking, Full-time Members.

London Transport Executive: Lord Latham, Chairman; Messrs. John Cliff, A. H. Grainger,

service has included construction work in all the provinces. He transferred to the Railway Road Motor Services for a time, but in 1935 was brought back to the strictly railway sphere as District Engineer (Construction), East London. Four years later, he became District Engineer, Durban, and was appointed System Engineer, Windhoek (South-West Africa System) in 1942. Mr. More was Resident Engineer at Germiston for a time and became System Manager, Windhoek, in 1946. He was transferred to Port Elizabeth as System Manager later in the year.

Mr. E. D. Zeigler, Assistant to the General Traffic Manager, Pennsylvania Railroad, has been appointed Foreign Freight Traffic Manager.

Mr. James M. Souby, General Solicitor of the Association of American Railroads, has retired.

Mr. Walter S. Thompson, formerly Director of Public Relations, Canadian National Railways, was among those on board the Cunard liner *Franconia* when it sailed from Liverpool for Quebec on September 18.

We regret to record the death at the age of 74 of Mr. S. T. Ward, who, until his retirement in 1943 was Indoor Assistant to the Traffic Manager of the G.N.R.(I.). He joined the G.N.R.(I.) as a clerk in the head office in 1882. In 1911 he was appointed Chief Rates Clerk in the then Goods Manager's office; ten years later he



Mr. T. V. More

Appointed System Manager, Cape Western System, Cape Town, South African Railways



Mr. J. P. Hugo

Appointed System Manager, Windhoek, South African Railways



The late Mr. S. T. Ward

Indoor Assistant to the Traffic Manager, G.N.R.(I.), 1932-43

L. C. Hawkins, A. B. B. Valentine, Full-time Members; Lord Williams, Part-time Member.

Railway Executive: Mr. W. P. Allen, Sir Michael Barrington-Ward, Messrs. D. Blee, R. A. Riddles, J. C. L. Train, General Sir Daryl G. Watson, Full-time Members.

Road Haulage Executive: Major-General G. N. Russell, Chairman; Messrs. F. Barrington, H. E. Clay, A. Henderson, Full-time Members; Mr. H. T. Dutfield, Mr. P. J. R. Tapp, Part-time Members.

The Road Passenger Executive will cease to exist after September 30.

Other members of Executives, whose appointments have still some time to run, are:—

Railway Executive: Mr. John Elliot, Chairman; Sir Herbert H. Merrett, Mr. G. T. Nicholson, Part-time Members.

Road Haulage Executive: Mr. G. F. Sinclair, Full-time Member.

Mr. T. V. More, System Manager, Port Elizabeth, South African Railways, who, as recorded in our July 11 issue, has been appointed System Manager, Cape Western System, Cape Town, is the son of the late Mr. J. R. More, a former General Manager of the S.A.R. Mr. T. V. More started as a pupil engineer in 1922 and his railway

Mr. J. P. Hugo, Administrative Secretary to the Minister of Transport, South Africa, who, as recorded in our July 11 issue, has been appointed System Manager at Windhoek, South-West Africa, South African Railways, joined the railway service in 1927, as a clerk. He served in various centres until 1939, when he was transferred to the Staff Section at Headquarters, Johannesburg. He was appointed Secretary of the Railway Service Commission in 1944 and in 1950 became Administrative Secretary to the Minister of Transport.

Mr. C. T. M. Bagnall, formerly Manager, Book Mail Order Publicity & Sales, Odhams Press Limited, who, as recorded in our August 29 issue, has been appointed Publicity Manager of the English Electric Co. Ltd., spent his first four business years with London advertising agencies. He holds the Advertising Association's Diploma. From 1932 to 1948, except for five years' war service, he was with the *Times of India* in Bombay, where he specialised in all forms of advertising, and was Manager of the Publicity Service Department. He left India to return to England and to join the Ministry of Food as Publicity Officer, a post which he held from 1948 to 1950, when he joined Odhams Press Limited.

became Chief Clerk, and in 1932 he was appointed Indoor Assistant to the Traffic Manager. Most of his career on the G.N.R.(I.) was in the Rates Section, and he became a recognised specialist on this subject. He represented the G.N.R.(I.) at many committees, including those of the Irish and English Goods Traffic Conferences and the Belfast Traffic Conference; he was chairman of both on many occasions. After his retirement he was retained by the G.N.R.(I.) in an advisory capacity and contributed to the preparation of a report on the company's post-war policy. The funeral was in Belfast on September 20 and among those present were:—

Mr. H. Evans, Staff Superintendent, representing Mr. H. S. Knott, Traffic Manager; and Mr. R. Atwell, representing Messrs. P. H. Patterson, Accountant, and H. J. Fox, Assistant Accountant.

Mr. F. A. Ross has been appointed Secretary-Accountant of Edgar Allen & Co. Ltd.

Mr. James F. Clark, formerly Vice-President & Treasurer of the American Car & Foundry Company, has been elected as Vice-President in charge of finance.



Mr. W. J. Manclark

Fuel Purchasing Officer,
Railway Executive,
who has retired

Mr. W. J. Manclark, Fuel Purchasing Officer, Railway Executive, who, as recorded in our August 8 issue, has retired, was born at Richmond, Surrey, and educated at Lord Weymouth's Grammar School, Warminster. He entered the service of the L.N.W.R. in the Mineral Traffic Manager's Office at Euston, and was transferred to the then newly-formed Central Purchasing Office of the General Manager's Department in 1910. After occupying other posts connected with purchasing he became Assistant for Purchasing to the Chief Stores Superintendent, L.M.S.R., in 1929, assuming responsibility for the purchase of coal in 1933. Mr. Manclark has visited British Columbia, Eastern Canadian Provinces, Newfoundland and several European countries in connection with timber purchasing. He was Chairman of various railway coal committees during the war, and in 1948 was appointed Assistant Stores Superintendent, London Midland Region, and was made Liaison Officer for the Railway Executive in connection with coal supplies. He became Fuel Purchasing Officer, Railway Executive, in 1950. Mr. Manclark was Chairman of the London Midland Fuel Salvage Committee and a member of the Railway Executive Fuel Efficiency Committee.

Mr. Robert Watson, who, as recorded in our September 12 issue, has relinquished his position as Industrial Relations Officer, Road Haulage Executive, has been appointed Chief Personnel Officer to British European Airways Corporation. He will take up his appointment on October 1.

Metropolitan-Vickers Electrical Co. Ltd. has announced the following appointments: Mr. R. H. S. Turner as Assistant Works Manager, Main Works; Mr. A. Paterson (in addition to his duties as Superintendent, Motor Department) as Assistant Works Manager, Mosley Road Works, including Leonard Works; Mr. J. S. Wright as Superintendent, Plant Department; Mr. J. A. Brooks as Superintendent, Leonard Works; Mr. R. M. A. Smith as Assistant Sales Manager, Instrument & Meter Department.



Mr. H. Shufflebotham

Appointed District Goods Superintendent,
Warrington, L.M. Region

Mr. H. Shufflebotham, Assistant District Goods Superintendent, Warrington, London Midland Region, who, as recorded in our July 25 issue, has been appointed District Goods Superintendent, Warrington, began his railway career with the L.N.W.R. in 1905 and served in the first world war with the Lincoln Infantry and Machine-Gun Corps. On demobilisation he joined the District Goods Manager's staff at Crewe, and after a period of relief duties, became Chief Clerk at Sandbach. Subsequently, as Overseas & Continental representative, he joined the staff of the District Office at Warrington in August, 1928, and after various phases of departmental supervision became Commercial Assistant in 1941. He was appointed Assistant District Goods Superintendent, Warrington, in 1945. Mr. Shufflebotham now controls a railway goods area of approximately 1,300 square miles, extending from Bay Horse in the north to Sandbach in the south, and from Formby on the west coast of Lancashire to Leigh in the east.

Mr. Edgar A. Webb, Resident Storekeeper of the Locomotive Stores, Crewe, London Midland Region, has retired.

Mr. William Leese, Traffic Manager, East Midland Motor Services Limited, has been appointed General Manager, in succession to Mr. George Brook, now General Manager, North Western Road Car Co. Ltd.

Mr. J. C. Gridley, Chairman of the Vacuum Oil Co. Ltd., has been elected a Director and Chairman of the board of Directors of the Vacuum Oil Co. (Ireland) Ltd., which has its head office in Dublin. Mr. H. W. Rocke and Mr. C. Lawrie, Directors of the Vacuum Oil Company of London, have resigned from the board of the Irish company. Having reached the normal age for retirement, Mr. C. G. Reeves will be succeeded in the offices of Director and Manager of the Irish company, by Mr. G. B. F. Cousens. Mr. J. P. Reihill has also joined the board of Vacuum Oil Co. (Ireland) Ltd. and Mr. M. R. Tyrrell has been appointed Secretary.



The late Mr. J. W. Kidd

A former Director & General Manager,
Metropolitan-Cammell Carriage
& Wagon Co. Ltd.

Mr. J. W. Kidd, whose death we briefly recorded in our last week's issue, was a former Director & General Manager, Metropolitan-Cammell Carriage & Wagon Co. Ltd., and had a long and distinguished record of service in the railway rolling stock industry. He served his time in the Locomotive Works of the Great North of Scotland Railway at Kittybrewster from 1888-93. After completing his apprenticeship, he went to the North British Locomotive Co. Ltd., as a draughtsman for two years and later returned to Kittybrewster, where he became leading draughtsman. In 1900 he went as Works Manager to a rolling stock firm at the Castle Car Works, Hadley, near Wellington. In 1905 he was appointed Works Manager of Kerr Stuart & Co. Ltd., of California Works, Stoke-on-Trent, although immediately before this appointment he had spent a short time with the Consolidated Brake Company, of Slough, also as Works Manager. In 1914 he joined the Leeds Forge Co. Ltd., as Works Manager. He was with the Leeds Forge company continuously until shortly after the 1914-18 war, when he was transferred to the Bristol Wagon & Carriage Works Co. Ltd., as General Manager, on that company being acquired by the Leeds Forge. He returned to Leeds a year or two later and became General Manager of the Forge on its being acquired by Cammell Laird & Co. Ltd., in 1923. When the Leeds Forge was closed down in 1929, after the merger of the rolling stock interests of Vickers Limited and Cammell Laird & Co. Ltd., Mr. Kidd was transferred to the headquarters of the Metropolitan-Cammell Company, at Saltley, and became Production General Manager in November, 1929. After becoming General Manager of the company on January 1, 1934, he was appointed to the board in October, 1942. During the second world war Mr. Kidd was responsible for the production of various types of fighting tanks and radar vehicles of which Metropolitan-Cammell became the largest producer; in recognition he was awarded the O.B.E. in the New Year's Honours List in 1942. He resigned his position as General Manager in 1945, but retained his seat on the board, and was appointed Consultant. Mr. Kidd

resigned from the board in 1949. The cremation service, which took place at Perry Barr, Birmingham, on September 15, was attended by Sir Archibald J. Boyd, Managing Director, Mr. H. N. Edwards, Assistant Managing Director, and a large number of representatives of the management and staff of Metropolitan-Cammell, as well as a number of former business friends.

Mr. George E. Abbott, Linley & Co. Ltd., was also present at the luncheon held at the Abercorn Rooms on August 29 to mark the retirement of Mr. Stanley J. Payne. Reference to the luncheon was made on page 273 in our September 5 issue.

We regret to record the death at the age of 59 of Mr. P. M. Rose-Meyer, lately Chief Accounts Officer in the Pakistan High Commission in London, and between 1945-48 a Deputy Chief Accounts Officer of the East Indian Railway.

We regret to record the death on September 14, at the age of 78, in the British Hospital, Buenos Aires, of Mr. E. C. Noble, Chief Mechanical Engineer of the Entre Rios and Argentine North Eastern Railways between 1921-29, and for a short period General Manager of both these railways.

Mr. W. D. Dixon, Locomotive Shedmaster, Immingham, Eastern Region, who, as recorded in our September 19 issue, has been appointed Assistant District Motive Power Superintendent, Stratford, was educated at Darlington. After obtaining the Higher National Certificate, he completed his technical training at Hull Technical College. In 1928 he joined the L.N.E.R. in the Mechanical Engineer's Department, and in 1935 transferred to the Locomotive Running Department and served as a Supernumerary Running Foreman, afterwards acting as a Mechanical Chargeman and Running Shift Foreman in the Stratford District. In 1944 he was appointed Acting Technical Assistant to the Locomotive Running Superintendent's Headquarters Office at Shenfield, and after a few months transferred to Lincoln as Assistant to the District Locomotive Superintendent; he went to Peterborough in 1946 in the same capacity. Mr. Dixon was appointed Locomotive Shedmaster at Immingham, Eastern Region, in 1948.

Mr. S. J. Judson, Staff Assistant to the Motive Power Superintendent and Divisional Operating Superintendent, York, North Eastern Region, who, as recorded in our August 22 issue, has been appointed Assistant (Wages Staff) to the Regional Staff Officer, joined the L.N.E.R. in 1924 and following experience in goods and passenger work was selected as a traffic apprentice. After training in the Southern Area of the L.N.E.R., he was given appointments in the Operating Department at London (Ferme Park) in 1933, and in the Commercial Department at Newcastle in 1934. In 1941 he was appointed Stationmaster and Locomotive Shedmaster at Whitby, in charge of the work of four departments, and from there became Assistant to the Mineral Manager, Doncaster. He was appointed to the Commercial Department in the Headquarters at York in 1944 and was later made Docks & Works Assistant to the Goods Manager and Passenger Manager, York. He became Staff Assistant to the Motive Power Superintendent, and Divisional Operating Superintendent, York, in 1949.

Antofagasta (Chili) & Bolivia Railway Co. Ltd.

Increased goods and passenger traffics; proceeds of special tariff increases to be used for purchase of rolling stock

The sixty-fourth annual general meeting of the Antofagasta (Chili) & Bolivia Railway Co. Ltd. was held in London on September 23, Mr. H. C. Drayton, Chairman, presiding.

Mr. Drayton in his statement circulated with the report and accounts for 1951 reported that despite many operating difficulties and some anxiety caused by a strike on the Chilean Section, between February 14 and March 5, the working results showed a substantial improvement over those of the previous year. Net receipts of the operation of the railways after deducting the loss on working the Bolivia Railway Company's lines of £154,709, exchange loss of £316,009 and the small loss on working the Aguas Blancas lines, was £925,569. After appropriating £183,792 for renewals there remained £741,777 towards provision for taxation, prior charges and payment on account of arrears of dividend on the 5 per cent. cumulative preference stock. The increase in net receipts was due mainly to increase in traffic hauled and partly to tariff increases. Even so, working expenses were some 79 per cent. of gross receipts.

After adding other income and the balance of £467,264 brought forward from 1950, and deducting fixed charges and appropriations, detailed in the net revenue account, the balance to the credit of that account at December 31, 1951, was £448,551, which it was proposed to carry forward. Appropriations included payment of arrears of dividends (less tax) for the two years 1942 and 1943 on the 5 per cent. cumulative preference stock.

During the year under review public goods traffic increased by 15.4 per cent., the number of passengers carried rose by 38.1 per cent., and there was a substantial increase in baggage and parcels traffic. Stores shipments (excluding fuel oil) were valued at £252,329, against £465,191 in 1950; the latter figure, however, included £251,897 for Beyer-Garratt locomotives. Although there were slight reductions in prices of some commodities, the general tendency still was to increase and the supply of railway materials was still very difficult.

The loss incurred on working the Bolivia Railway Company's lines was £154,709 in 1951; against this was the amount of £202,120 received by the company from its holding of Series "B" Bonds of the Bolivia Railway Company, giving a net income of £47,411 compared with £17,691 for 1950.

Besides appropriation of £83,792 from net revenue account to renewals account, £116,208 was debited direct to working expenses. The balance on renewals account at the end of 1951 was £1,847,534 compared with £1,657,160 at the end of 1950. Mr. Drayton pointed out that £100,000 also had been appropriated from net revenue account to the renewals account of the leased lines in Bolivia compared with £20,000 in 1950. The balance on the account at the end of 1951 was £414,992. The increased appropriation was essential because of the very large increase in the cost of materials.

New Rolling Stock and Equipment

Mr. Drayton drew attention to a new item under the heading of capital reserves, namely, equipment reserve, £483,238. This was the proceeds of special increases

in tariffs granted by the Chilean and Bolivian Governments to be used only for the purchase of new rolling stock and other equipment so urgently needed to enable the company to carry the increased traffics and to maintain a satisfactory service in the countries served. They recently had ordered ten 4-8-2 type engines for the Chilean Section and six engines of the same design for Bolivia for delivery in 1954. It also was proposed to place orders for some new wagon stock for the Bolivian Section. This was particularly necessary, as during the past year, despite every effort to improve turnaround, the existing stock had been working to capacity. As funds allowed, they intended to order new machinery for the workshops at Mejillones and Uyuni so that repairs could be effected to locomotives and rolling stock in the most efficient manner and with the minimum of delay. Implementation of this essential programme depended on their continuing to receive sterling or dollar remittances from Chile and Bolivia in respect of these special funds—a point of which both Governments were well aware, and he did not anticipate any difficulty in this direction.

Wage and Tariff Increases

In Chile, the legal minimum salary for employees was increased in January, 1951, and in May the company's workmen were granted increased pay and allowances; these concessions were compensated by an increase of 23 per cent. in tariffs in force from February 22, 1951. In Bolivia, employees and workmen asked for a 60 per cent. increase, but the claims were settled on the basis of an increase of 30 per cent. as from February 16, 1951, compensated by a 20 per cent. increase in tariffs from the same date.

Reference was made in the Chairman's statement to proposed new articles of association for the company. These provided for stockholders to be entitled on a poll to one vote for every £1 of stock held, instead of only one vote for every £100 of preference or ordinary stock held, as at present; for Directors to be paid their expenses when engaged on the company's business; and for Directors' interest in contracts or arrangements with the company to follow the general form of that in Table A in the Companies' Act 1948. To comply with a Stock Exchange requirement that the borrowing powers of the Board be limited by reference to the total borrowings of the company and its subsidiaries, other than borrowings within the group, a new article provided that the amounts borrowed by the company and its subsidiaries, exclusive of inter-company borrowings, should not be without the sanction of an ordinary resolution exceed twice the nominal amount of the issued premium account. The new articles also gave the Board express power to pay pensions to employees, including working Directors.

Mr. Drayton also recorded appreciation of the services of Mr. L. V. Keitley Duff, General Manager in Chile, of Mr. T. V. Woods, General Manager in Bolivia, and of all members of their staffs, and referred to the personal danger to which staff had been exposed during the fighting accompanying the revolution in Bolivia.

The report and accounts were adopted.

Ministry of Transport Accident Report

Between Linlithgow and Philpstoun, May 25, 1952: British Railways, Scottish Region

Brigadier C. A. Langley, Inspecting Officer of Railways, Ministry of Transport, inquired into the accident which occurred at 9.40 a.m. on May 25, 1952, at the trailing points of Pardovan Siding, between Linlithgow and Philpstoun, when the 8.33 a.m. excursion train, Glasgow to Whitley Bay, consisting of 10 coaches, drawn by a class "5 M.T." 4-6-0 tender engine, running at 55 m.p.h., became derailed. The second, third and tenth coaches were partly and the ninth totally derailed. There were no casualties. The crossing had been dismantled in order to effect repairs and no arrangements had been made to protect it. Prompt steps were taken to protect both lines and the down was opened for single-line working at 11.16 a.m.; the up was in use again by 7.45 p.m. There was some delay to traffic, but no train had to be cancelled. The weather was fine and clear.

There is no signal box at Philpstoun. The 5-mile section between Linlithgow and Winchburgh Junction is divided by

scribed distance, also station near to the obstruction a second handsignalman, who must place on the rail three detonators, 10 yards apart, and exhibit a hand danger signal.

"The handsignalman must remain at the appointed place until he is recalled by the ganger or man in charge."

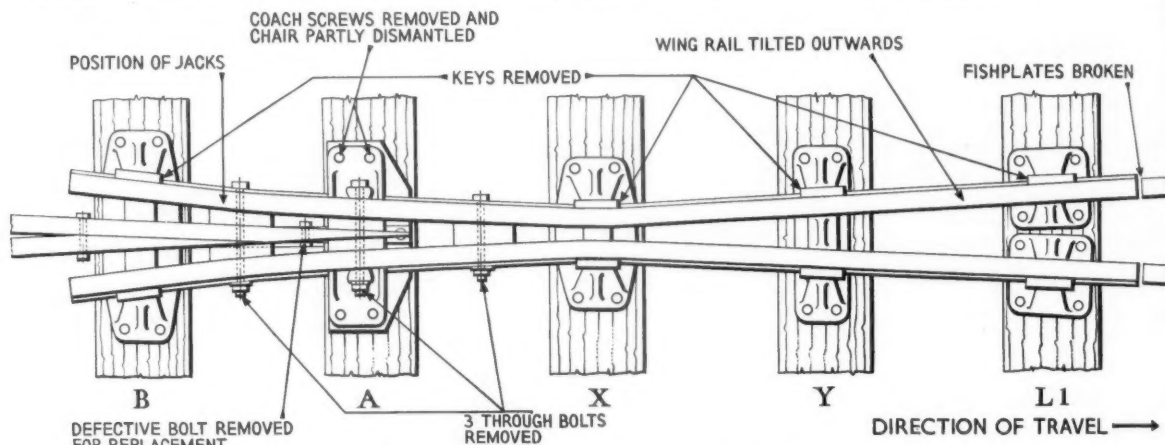
The Track

The track was damaged for nearly 700 yd.; 840 sleepers and crossing timbers and over 1,000 chairs had to be replaced. The trailing crossing was found as indicated on the accompanying sketch. The three through bolts and small bolt in the nose had been removed. All keys holding the cess side wing rail had been taken out and the left-hand side of the A chair dismantled. The wing rail was pushed outwards and tilted and the two fishplates connecting it to the closure rail were broken. The A and B chair distance block was broken and there were marks on the X chair distance block where the wheel

He looked back as they passed over the crossing and saw the rear coach "rise in the air," and swing towards the down line. He went to protect that line and stopped at the Philpstoun intermediate block home and telephoned to Linlithgow.

The guard, in the rear coach, felt a violent lurch and was thrown across the van as it passed the points. The vacuum had been destroyed before he could reach the brake handle. Going forward he found some vehicles derailed and ascertained that no passenger was injured; also that the down line was clear and fit for traffic. He ran back over 2 miles to Linlithgow and reported to the stationmaster.

The sub-ganger had held his appointment since December, 1944, and was 46 with nearly 21 years' service. He patrolled the length every weekday and on alternate Sundays. That morning he commenced duty at 7.30 and reached the site between 8.30 and 8.45 a.m. He knew that the short bolt in the nose of the trailing "V" crossing was loose, owing to a worn thread,



The trailing crossing as found after the accident

approach-lit colour-light intermediate signals.

Instructions for protecting traffic while permanent way work is in progress are contained in Rule 217, as follows:—

"Before a rail is taken out . . . or if from any cause the line is unsafe, the ganger or man in charge must . . . appoint a handsignalman to protect the obstruction. The handsignalman must . . . be stationed at a distance of 1 mile or at such further distance as may be necessary to the rear of the obstruction to ensure the driver of an approaching train having a good and distant view of his hand danger signal. The handsignalman must place on the rail three detonators, 10 yards apart, and exhibit a hand danger signal. The ganger or man in charge must not allow the rail to be taken out or any obstruction be placed on the line until this has been done.

"The ganger or man in charge must not withdraw the handsignalman until the line is clear and safe for the passage of trains. . . .

"When the obstruction is not within the protection of the home signal, the ganger or man in charge must, in addition to sending out a handsignalman the pre-

flanges had dropped into the throat. The cess side distance block, which should have been held by the through bolt between A and B chairs was found underneath the wing rail. Slight scorings indicated it had been pressed down by wheel flanges. There were diagonal marks on top of the right-hand rail just beyond the check rail where wheels had mounted it.

Evidence

The driver said he reduced speed at Linlithgow on account of permanent way work; after that the line was clear. The intermediate block distant was off and he approached the siding at about 50 to 55 m.p.h. He saw a platelayer bending over the points, who made no sign, and stepped to one side when the train was about 100 yd. from him. He did not realise that anything was amiss, nor feel any lurching or bumping as he passed the points, but a train's length further on his fireman shouted that the train was off the rails. He made an emergency brake application and stopped in about 500 yd. He found nothing wrong with his engine; the guard came up and told him some coaches were derailed.

The fireman confirmed this evidence.

and decided this was a suitable time to replace it. He thought the next up train was the 9.40 from Glasgow, due at 10.34, and did not know of the excursion, not having seen the weekly special traffic notices.

He was carrying his usual patrol gear. Placing jacks under the cess side wing rail, which carries the main-line traffic, he dismantled it and jacked it up clear of the chairs. He endeavoured to remove the short bolt in the nose of the point and splice rails but it was bent and he had some difficulty in extracting it. He was about to insert the new one when he heard the train. His first thought was to replace the wing rail and get the line safe; he lowered the jacks but the wing rail did not drop into position. The distance block between the A and B chairs had jammed. He knocked it free but the wing rail turned outwards and still did not fall into the proper position. He realised that he could not stop the train and thought it no good waving to the driver, so he stepped back on the cess and watched it pass. The engine knocked the wing rail down and he expected the train to pass safely.

He agreed that he did not protect the line in accordance with rules, with which

he was conversant. He was confident he could have finished the job in half an hour, if the bolt had not stuck. He thought he had plenty of time on a Sunday morning when traffic was quiet. This was the first attempt he had made at such work single-handed, although he had assisted his ganger on a number of occasions. Usually two or three men would be employed, in addition to the flagmen, but on this occasion he decided on the spur of the moment to do the work himself. He had not told the ganger about this at Linlithgow, nor did he inquire whether any extra trains were running.

The ganger had been in charge of the length since November, 1944, and had nearly 30 years' service. He was with his gang laying drains at Linlithgow, heard of the accident between 10.0 and 10.15 a.m., and went to Pardovan with his men. He had told the sub-ganger to patrol that morning, but did not advise him about the running of the excursion, because the weekly notices had not arrived. In any case there was no special reason to do so as he was not going to do any work on the line. The sub-ganger had not told him that the crossing bolt was loose and he was going to replace it. He himself would never attempt to do so single-handed. He would have employed at least three men, in addition to flagmen; it would have taken him 15 to 20 min. to complete, after flagmen were in position. The sub-ganger was an experienced man and should have been fully conversant with the rules, which were discussed with all members of the gang early in the year. Weekly notices should be received each Friday evening but frequently did not arrive until Sunday, although taking effect from Saturday morning. He had not complained about the delay. He consulted the notice in Linlithgow signal box if his copy was late in arriving.

The Permanent Way Inspector had been in charge of the District for three years and was supervising the drainage work when the signalman told him of the derailment. He went to the scene and met the sub-ganger, who told him what he had

done. He confirmed that he would himself need three or four men to do the work. The sub-ganger was a very good man and he could not understand why he tried to do the job unassisted. The weekly notices often were late in arriving at his office and frequently did not reach the gangers until Sunday. Ratho Station, his headquarters, was now closed to passenger trains and notices had to be sent to him by bus or lorry. They should reach him each Thursday, in time for him to send them out again by lorry on Friday, but if late they had to wait until Sunday, since, with the 5-day week, no work was now done on Saturday. He had not complained about that, however.

Inspecting Officers' Conclusion and Remarks

This derailment was due to the thoroughly unsafe condition of the crossing, for which the sub-ganger is entirely responsible. It is scarcely credible that a man with his experience should act in such a foolhardy way and dismantle a main-line crossing without protection and without finding out about the traffic. It can well be believed that he undertook the work on the spur of the moment; no permanent way man with any sense of responsibility would have acted so impulsively, had he stopped to think.

The light damage and absence of casualties can be attributed in part to the prompt stopping of the train and steadying effect of the Buckeye couplings. The natural stiffness they provided did much to hold the coaches in line and prevent the initial derailment of the second and third vehicles leading to complete derailment of the rest. These couplings are now being fitted to all new passenger stock.

The instructions in Rule 217 are clear and their strict observance essential. Delay in receipt of special train notices had no direct bearing on the accident; it is, however, desirable for sub-gangers to be shown them, because they may have to take charge in the ganger's absence, and, in any case, knowledge of additional traffic would be helpful to them when on patrol. The

inquiry brought to light the troubles being experienced in delivering notices on account of the closing of stations. This ought to be overcome, because these documents should be in the hands of all members of the staff before the date on which they come into force.

Brighton Line Resignalling, Southern Region

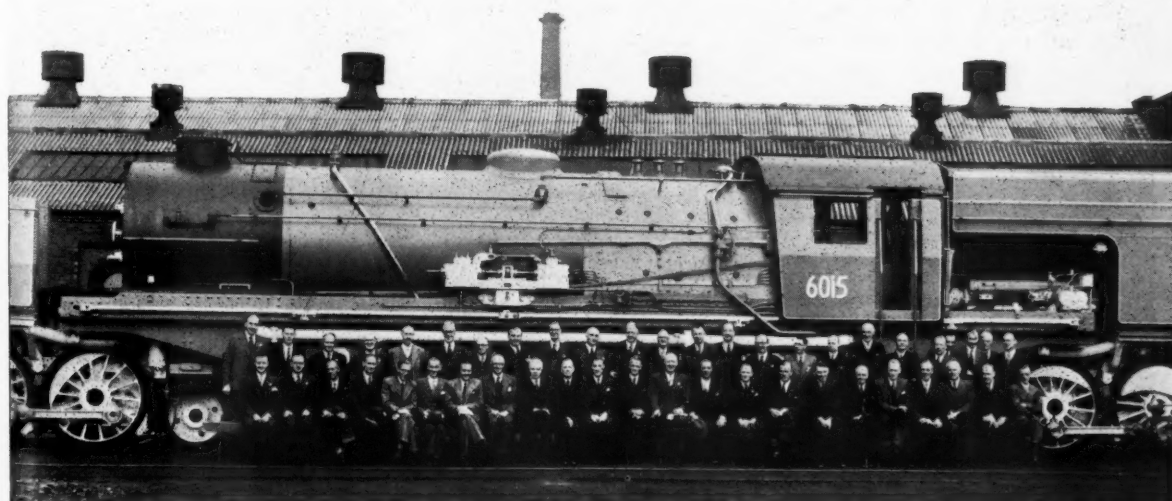
Streatham Common to Selhurst section of scheme

Another stage of the Southern Region £2,000,000 scheme to equip the whole of the London to Brighton line with colour-light signals will be completed next month, when the new system is put into operation between Battersea Park and Selhurst. Stage 1, Bricklayers Arms Junction to Norwood Junction North box, was inaugurated on October 7-8, 1950, and described in our January 12, 1951, issue.

On Sunday, October 5, colour-light signals will replace the old semaphore signals between Streatham Common and Selhurst, and on the following Sunday, October 12, colour-light signalling will be introduced on the section between Battersea Park and Streatham Common. Eleven signal boxes will be abolished, and replaced by three new all-electric boxes situated at Clapham Junction, Balham, and Streatham Junction. These three boxes, which between them contain a total of 225 miniature type working levers, and operate 39 automatic sections, will control the whole of the 125 multiple-aspect, long-range colour-light signals between Battersea Park and Selhurst, a distance of 14½ miles.

The new signal boxes are equipped with S.G.E. magazine train describers of the type described in our March 30, 1951, issue, whereby by pressing a button a signalman can advise adjacent boxes of the next train, its class, and destination. The new signals will be mounted on light-weight tubular steel signal bridges. Flood-

Largest Beyer-Garratt Locomotives on View



Group at the Gorton Works of Beyer Peacock & Co. Ltd. during the inspection on September 4 of Beyer-Garratt 4-8-4 + 4-8-4 locomotives for New South Wales (see our September 12 issue). Mr. Harold Wilmot, Chairman & Managing Director of Beyer Peacock & Co. Ltd. is in the centre of the front row

lit solenoid-operated disc type shunting signals are provided, and there are 20 junction indicators along the route.

All the automatic signals and most of the others are equipped with telephones to give train crews direct communication with the signal boxes. The spacing of the new signals will allow stopping trains to run closer together at intervals of only 2½ min. and will assist in maintaining the high standards of timekeeping on this section of the line. When the final stages of the scheme are completed in 1955, there will be continuous colour-light signalling from London Bridge and Victoria to Brighton.

Scottish Region Coronation Plans

Plans have already been considered and special trains earmarked for the Coronation celebrations in London on Tuesday, June 2, 1953. From Glasgow a cheap day fare of 70s. for the return journey will be given by special trains. This will guarantee the passenger a reserved seat in each direction. Trains will be made up on the basis of six passengers per compartment and passengers will occupy the same seat up to London and back from London.

It is the intention that the single-day excursion trains will leave Glasgow on the night of June 1 and arrive in London in the early morning of Coronation Day, returning from London on Tuesday night or early Wednesday morning.

Each train will carry a railway official who will act as conductor and give any information which passengers may require. It is hoped to provide light refreshments on the journey and also to cater for the passenger who requires only a cup of tea and a sandwich.

"Save to Travel" schemes will be introduced and industrial works, organisations, clubs, schools, and similar bodies will be encouraged to make up parties. British Railways also have in view the provision of special day excursions from Edinburgh, Aberdeen, and Dundee, and are considering two-day excursion trips as well. Full details will be announced in due course.

Eastern Region Winter Continental Services

The Eastern Region announces that its Continental passenger services via Harwich for the winter period from October 5 to May 16, 1953, inclusive, will be as under:—

Harwich-Hook Day Service: The "Day Continental," which will include a buffet car, will leave Liverpool Street daily, including Sundays, at 9.30 a.m., with sailing at 11.15 from Parkeston Quay, and arrival at the Hook of Holland at 6.55 p.m. (Central European Time). Westbound, the ship sails from The Hook at 11.30 a.m. (C.E.T.), arriving at Harwich at 5.15 p.m., and the "Day Continental" is due Liverpool Street at 7.21 p.m. (These times are 6.15 and 8.34 p.m. respectively until October 25 and from April 19, subject to the official introduction of Summer Time in the U.K. next year.)

Harwich-Hook Night Service: The "Hook Continental," with restaurant car, will leave Liverpool Street daily, including Sundays, at 7.30 p.m., and continue to be allowed 90 min. to Parkeston Quay; the sailing is at 9.30 p.m. with arrival at The Hook at 5.45 a.m. (C.E.T.). West-

bound, the ship sails at 11.50 p.m. (C.E.T.) and is due Parkeston Quay at 6.45 a.m.; departure of the up "Hook Continental" is at 7.42 a.m., with 92 min. allowed to Liverpool Street, due 9.14. There will be no alteration in the times of berthing at or sailing from The Hook whilst Summer Time is in force in the U.K.; during the currency of Winter Time in Great Britain, advantage will be taken of the extra time available on the westbound journey to make up any delays which may occur on the Continent.

Harwich-Esbjerg Service: Sailings from Harwich will be on Mondays, Wednesdays, Fridays, and Saturdays from October 6 to 25 and from April 20 to May 15; and on Tuesdays and Fridays only from October 28 to April 17. Westbound sailings from Esbjerg will be on Mondays, Wednesdays, Thursdays, and Saturdays from October 6 to 25 and from April 20 to May 16; and on Wednesdays and Saturdays only from October 29 to April 18. The "Scandinavian" will leave Liverpool Street at 10.5 a.m., with sailing from Parkeston Quay at 12.30 p.m., due Esbjerg 9 a.m. (C.E.T.) next day (8 a.m. during currency of Summer Time in U.K.); westbound sailings are at 6 p.m., due Harwich 1 p.m. next day, with arrival of the "Scandinavian" at 2.58 p.m. (3.28 p.m. on Sundays) at Liverpool Street.

Glenfield & Kennedy Centenary Luncheon

The centenary of Glenfield & Kennedy Limited, the hydraulic engineering firm whose development was the subject of an editorial note in our September 19 issue, was celebrated at a luncheon held in the Grand Hall, Kilmarnock, on September 19.

Mr. H. Cowan Douglas, Chairman of the company, in welcoming the guests, said that he hoped when they had seen the works they would think that this was a company worth backing, and that they would resolve in their diverse respective spheres to honour Glenfield & Kennedy Limited in its second century with the same encouragement and support as they had given in its first.

The Earl of Home proposed the toast of "Scottish Industry." If Thomas Kennedy, founder of the firm, could return today, he said, certainly he would be gratified by the expansion of business, the efficiency in production, the harmony in human relations. Glenfield & Kennedy could not be missed—even among the industrial giants. The strength and wealth of Scotland had always lain in inventiveness; in the brains of the Thomas Kennedys, restless and curious, anticipating the needs of human society.

Lord Bilsland, proposing the toast of "Glenfield & Kennedy Limited," spoke of the start of the firm and its steady progress during the past 100 years and remarked that today it was recognised throughout the world as playing a leading part in the design and construction of equipment for the control of liquids, including water, oil, and chemicals. The workshops in Kilmarnock, covering 16 acres, had been largely rebuilt and re-equipped since the war to achieve production by the most advanced methods.

Commenting on the firm's valuable contribution to the export trade, Lord Bilsland said that more than 40 per cent. of its current production was for export.

Sir Alexander McColl, a Director of Glenfield & Kennedy Limited, replied to the toasts. He thought that Scotland could not maintain full employment with-

out a healthy and growing export business. The fact must be faced that the Continental countries were attacking Scotland's export markets in all quarters of the world. Japan had recently stepped in to take an order for locomotives for the Chilean Government—railway locomotives which unquestionably should have been built in Glasgow.

In his opinion there was nothing wrong with Scotland that could not be cured by hard work. Men and management must learn to work as hard for the company as they would work for themselves if the business were their own. That was the real medicine to put the country right.

Staff & Labour Matters

Engineering Wage Claim

When the representatives of the Engineering Employers' Federation met Sir Robert Gould, Chief Industrial Commissioner of the Ministry of Labour, last week, they stated they could not change their attitude on rejection of the wage claim submitted on behalf of the engineering workers.

A statement issued after the meeting pointed out that the need for maintaining the maximum effort in the export drive and in the production of vital home industries made it imperative to avoid any additional burden on the industry. The employers had reviewed the question of a wage increase with the utmost care, but felt that to agree to an increased wages cost at a time when the economic situation restricted purchasing power and when competition from certain other countries was growing, was against the interests of all sections of the industry and the possibilities of maintaining full employment.

They nevertheless would be prepared to submit the whole matter to arbitration and undertook to be bound by any award of any tribunal that might be appointed.

Shipbuilding Employers' Attitude

Representatives of the Shipbuilding Employers' Federation met Sir Robert Gould on September 23. They too emphasised their inability to concede the claim, and signified their willingness to take it to arbitration.

C.S.E.U. Discussion on Arbitration

Leaders of the 38 organisations affiliated to the C.S.E.U. met on September 24 to discuss the suggestion that the claim be submitted to arbitration, against which delegates voted last week, when the suggestion was made by the Transport & General Workers' Union.

Pay Rise for Bus Workers

The Industrial Court has awarded a pay increase of 7s. a week to nearly 80,000 workers on municipally-owned buses, trams, and trolleybuses. This award gives drivers a commencing rate of £6 10s., and £6 13s. a week after twelve months, and conductors a commencing rate of £6 5s. with a rise of 3s. after twelve months.

Road Haulage Executive Staff

Claims for a 10 per cent. increase in pay for operating and ancillary grades and on behalf of maintenance and repair grades employed by the Road Haulage Executive came before the Industrial Court on September 19 and 22. The parties to the claims were the trade union side and the employers' side of the National Joint Negotiating Committee of the Road Haulage Executive for the respective groups of grades.

Contracts & Tenders

Speaking at the annual general meeting of Charles Roberts & Co. Ltd. on September 17, Mr. Duncan Bailey, Chairman of the company, stated that his company had maintained for a long time that if the railways could place orders for standard wagons on a five-year plan, as they now were doing, a good deal of money would have been saved to the benefit of all concerned. A report in *The Financial Times* adds that an order of this type has recently been received by Charles Roberts from British Railways and amounts to 9,500 16-ton mineral wagons, to be delivered at the rate of about 2,000 wagons a year. The contract is understood to be the first of many similar ones to be placed with old-established wagon builders amounting in all to between 80,000 and 100,000 wagons.

The Crown Agents for the Colonies have recently placed contracts with Charles Roberts & Co. Ltd. for ten four-wheel goods brakevans and 80 four-wheel all-steel covered wagons for the Ceylon Government Railway.

Railway Mine & Plantation Equipment Limited has announced that the Gregg Car Co. Ltd., Belgium, for whom it acts as London Representatives, has been awarded a contract by the South African Railways for the following:—

- 50 open high-side steel bogie wagons.
- 100 drop-side steel bogie wagons
- Eight flat-sideless steel bogie wagons

The Canadian National Railways have recently placed contracts, valued at \$18,900,000, for 102 road and shunting diesel locomotives. Only four of the locomotives ordered will be for use on lines in the U.S.A. and will comprise two 1,000 h.p. shunters from the American Locomotive Company and two 1,200 h.p. shunters from General Motors Corporation, U.S.A.

The locomotives required for use in Canada have been ordered as follows:—

- Canadian Locomotive Co. Ltd.: 20 1,600 h.p. road locomotives
- General Motors Diesel Limited: 40 1,500 h.p. road locomotives six 1,200 h.p. shunters for Newfoundland
- Montreal Locomotive Works: 10 1,600 h.p. road locomotives; 22 660 h.p. shunters

Schindler Waggon A.G., Pratteln-Basle, Switzerland, has on order from the Swiss Federal Railways a new form of driving trailer with second and third class seats for use in conjunction with new lightweight motor coaches on the 15 kV. single-phase electrified system.

De Dietrich & Cie., Reichshoffen-Usines, France, has received an order for three bogie passenger coaches for metre-gauge lines, from the Piraeus-Athens-Peloponnesus Railway, Greece. This manufacturer also has received orders for about 50 double-bogie automatic-discharge hopper wagons from French steel companies.

The Solvay Process Division of the Allied Chemical & Dye Corporation has placed an order with the American Car & Foundry Company for 50 70-ton, class "105-A-300W" tank cars, to be built at the American Car & Foundry Milton, Pennsylvania plant.

The Board of Trade, Special Register Information Service, recently reported a call for tenders by the South African Railways for the supply of four 3-4 ton diesel locomotives suitable for operating on 2 ft. gauge track with 18 lb. rails. Tenders should reach the Chairman of the Tender Board, Johannesburg, by 9 a.m. on Thursday, November 6.

A copy of the tender documents and specification is available for inspection at the Board of Trade, Commercial Relations & Exports Department, by representatives of United Kingdom manufacturers until

Thursday, October 2, after which date it will be available on loan in order of written application; reference CRE/31559/52 should be quoted.

CENTRAL WAGON (HOLDING) COMPANY TAXATION.—The directors of the Central Wagon (Holding) Company announced on September 23 that the Inland Revenue authorities had decided not to proceed with appeals against the decision that the surplus arising when the company's hiring fleet of wagons was transferred to a subsidiary, was not liable to assessment for E.P.T., profits tax, and income tax. It is hoped shortly to put before shareholders recommendations resulting from this decision.

COMPETITION FOR AUSTRIAN TRANSIT TRAFFIC.—At a recent conference at Hamburg of the Seehafen Zweckverband—an international organisation composed of the railways serving the competitive ports of the North Sea and the Mediterranean—the German Federal Railways put forward a proposal to divide Austria for tariff purposes into three zones, with the most favourable rates applying to the zone farthest from the German frontier, and by the same token nearest to Trieste. The plan is stated to have been intended to attract transit traffic to and from Austria to Hamburg and Bremen. It was resisted by the other participants in the conference, and the Adriatic Railway Tariff League (comprising the Italian, Yugoslav, Trieste, and Austrian railways) succeeded in adding a clause to the effect that the new German tariff must never be less than 15-17 per cent. above the tariff between Austria and Trieste. The freight rates offered to Austrian goods in transit through Western Germany involve a reduction of 50 per cent. in the rates for internal traffic on the German Federal Railways.

Demonstration of Goods Handling and Rolling Stock at Battersea Wharf



British Railways exhibition of the latest types of goods rolling stock and demonstration of devices being used to speed-up handling at goods depots which was held at Battersea Wharf on September 17 and 18 (see our September 19 issue). Left: Mr. John Elliot, Chairman, Railway Executive, with Mr. A. T. Lennox-Boyd, Minister of Transport, in the cab of a "Britannia" class locomotive. Right: Part of the rolling stock exhibition

Notes and News

Transfer of London Transport Tube Stock.

—The London Transport Executive is transferring 13 trains of 1938 stock of standard make-up (four-car plus three-car set) from the Bakerloo and Northern Lines to the Piccadilly Line. The first three trains were transferred on September 8. Older stock thus released on the Piccadilly Line will be transferred to the Central Line to allow eight-car trains to be formed.

L.M.S.R. (London) Golfing Society.

—There were 39 competitors for the L.M.S.R. (London) Golfing Society Captain's prize, provided this year by Mr. F. E. Bailey, Assistant (Freight) to the Commercial Superintendent, and won by Mr. George Weeds of the Accountants Office, Euston. The prizes were presented by Mr. J. W. Watkins, Chief Regional Officer. Those present at the annual dinner of the Society included: Messrs. G. J. Harris, T. W. Royle, G. L. Darbyshire, W. E. Yates, F. E. Bailey, J. W. Watkins, R. A. Riddles, A. E. Hammett, R. Simpson, and S. G. Hearn.

British Lubrication Film.—The instructional film "Basic Principles of Lubrication," made for the Esso Petroleum Co. Ltd. by Technical Films Limited, which was referred to in our May 30 issue, recently won the second prize in the Scientific Section of the Venice Film Festival. The film has also had the distinction of being shown twice at the Edinburgh Festival in both the Educational and Scientific Sections, and has been booked for showing at the Sixth Congress of the International Scientific Film Association, which is being held in Paris until October 1.

Immigration for N.S.W. Transport Appointments Suspended.

—Recruiting in Great Britain for service with the Road Transport and Railways Departments in New South Wales was suspended on July 7. In some cases immigrants have been dismissed, or informed on arrival that no work with the transport departments was available. It is expected that alternative employment will be found for the men affected. It was stated in London on Tuesday that men who found expected jobs in N.S.W. transport were not available would be paid up to £2 10s. unemployment relief and would shortly become eligible for family endowment. They would have no difficulty in finding employment in rural Australia.

Anglo-Scottish Motorcoach Services.—The application by Northern Roadways Limited to operate motorcoaches between London and Scottish destinations has been allowed by the Scottish Licensing Authority. The company's present licence was ordered by the Minister of Transport to be revoked on September 30; this was after an appeal by objectors, who included privately-owned road passenger undertakings besides British Railways and the State-owned Scottish Omnibuses Limited, and postponement of revocation because of the many bookings made by the company pending hearing of the appeal, the subject of editorial comment in our April 11 issue. The decision of the Scottish Authority is subject to a licence being granted by the Metropolitan Licensing Authority. No date has been fixed for this hearing. In the West Midland Traffic Court on September 22, the Birmingham & Midland Motor Omnibus Co. Ltd., Ribble

Motor Services Limited, and the North Western Road Car Co. Ltd. jointly applied for permission to operate long-distance express services between Coventry and Glasgow. The application was opposed by the Railway Executive and by Northern Roadways Limited.

Institution of Locomotive Engineers.

—The following awards for papers read before the Institution of Locomotive Engineers during the 1951-52 session were presented by Mr. J. S. Tritton, the retiring President (during whose year of office the papers were read), at the general meeting held on September 24:—

The Frederick Harvey Trevithick Award (value £30): to Lt.-Colonel L. F. R. Fell (Member) for his paper "The Fell Diesel-Mechanical Locomotive."

The Institution of Locomotive Engineers Awards (value £15): to Mr. J. F. Harrison (Member of Council) for his paper "The Application of Welding to Locomotive Copper Fireboxes."

The Alfred Roslin Bennett Award (value £5): to Mr. D. W. Peacock (Associate Member) for his paper "Railway Wind Tunnel Work."

The Special Award to Graduates under 25 years of age (value £5): to Mr. J. F. Thring (Graduate) for his paper "Structural Design of Lightweight Steel Coaches for the Indian Government Railways."

In addition to the above, the retiring President has awarded a President's Prize to Mr. R. A. G. McDermott (Graduate) consisting of two books for his essay on the Institution's visit to the Corby Steel Works of Stewarts and Lloyds Limited on May 23, 1952.

White Lead Paints.—A pre-view of two films, sponsored by Associated Lead Manufacturers Limited, dealing with the manufacture and wearing qualities of white lead paint was given at the Hammer Theatre, 113, Wardour Street, London, W.1, on Tuesday last. The first film shows the mining of lead ore and the conversion of the purified pig into white lead; first by

the old Chamber process, and secondly by the Octagon process. The film shows laboratory tests which demonstrate the differences in the wearing resistance and oil absorption of the three grades which the firm has standardised. The second film depicts the manufacture of Magnet, white lead base, hard gloss paint, through all its processes, the mixing of the white lead with the linseed oil and varnish medium; the stainers, coloured pigments ground in an oil and varnish medium are mixed separately. The film also depicted the refinery process and laboratory control. The films are available in 35 mm. and 16 mm. black and white and 16 mm. Kodachrome, for technical schools, training schemes and so on, on application to Associated Lead Manufacturers Limited, 14, Finsbury Circus, London, E.C.3, or area offices.

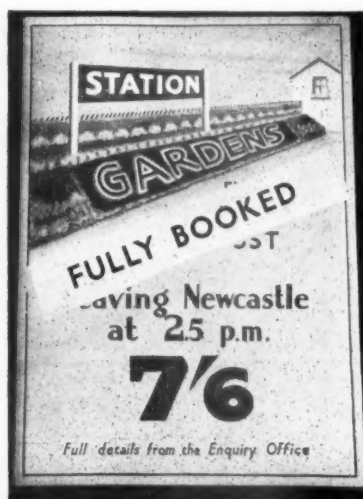
Open Day at Lancing Carriage Works.

—On September 24 the Southern Region Carriage & Wagon Works at Lancing were open to the general public. Visitors to the works saw cranes lifting carriages weighing over 30 tons, vehicles under repair on the conveyor belt principle, detection of flaws in steel, electric welding, and drop stamps in operation. New 42-ton wagons for the transport of steel in bulk were seen under construction. Proceeds were devoted to the Southern Railway Servants' Orphanage and Homes for Old People.

Southern Region Lecture & Debating Society.

—On Wednesday, October 8, British Railways, Southern Region, Lecture & Debating Society, is holding a Brains Trust at the Chapter House, London Bridge, at 5.45 p.m. Mr. C. P. Hopkins, Chief Regional Officer, who is President of the Society, will take the chair and the following Vice-Presidents of the Society will take part: Messrs. F. E. Campion, Civil Engineer; T. E. Chimes, Motive Power Superintendent; H. C. Lang, Regional Staff Officer; R. Stockdill, Accountant; H. H. Swift, Mechanical & Electrical Engineer; H. B. Taylor, Assistant Operating Superintendent.

Station Gardens Excursion



Two trains for a 104-mile Sunday tour of N.E. Region station gardens were fully booked by 9.30 a.m. the morning before

"Exercise Mainbrace" Excursions.—While N.A.T.O. warships were on a visit to the tail of the bank before taking part in "Exercise Mainbrace," 12,000 sailors on leave were conveyed to Glasgow by the Scottish Region. Thirteen special trains brought them to the City and late night specials took them back to their ships. To enable the public to see the fleet at anchor, combined rail and cruise tickets were issued by British Railways at a specially reduced charge of 5s. for afternoon trips and 4s. for evening trips from Glasgow. Short cruises of about 1½ hr. made by British Railways pleasure steamers proved very popular. The total number of cruise passengers carried was 33,612.

Deferment of Engineering Apprentices' Call-Up.

—The present arrangements for granting deferment of the calling up of a limited number of ex-apprentices belonging to certain highly skilled occupations and working on certain specified "super-priority" rearmament projects are being extended to men belonging to the same highly skilled occupations employed in establishments mainly engaged on the categories of engineering work of particular importance to exports, or merchant shipbuilding. The occupations to which the arrangements apply include practically all the highly-skilled occupa-

OFFICIAL NOTICES

The engagement of persons answering Situations Vacant advertisements must be made through a Local Office of the Ministry of Labour or a Scheduled Employment Agency if the applicant is a man aged 18-64 inclusive or a woman aged 18-59 inclusive unless he or she, or the employment, is excepted from the provisions of the Notification of Vacancies Order, 1952.

DRAUGHTSMEN required by Gloucester Railway Carriage & Wagon Company, Gloucester, preferably with Steel Car or Diesel Car experience. 5-day week. Pension Scheme in operation. Apply LOCAL MINISTRY OF LABOUR AND NATIONAL SERVICE.

DRAUGHTSMAN required by East Midland Firm of Railway Permanent Way Manufacturers. Experience in British Standard and Private Sidings practice. Site Surveys, etc., required. Only those with P.W. experience need apply. Superannuation Scheme, 5-Day Week, Canteen, etc. Write stating age, experience, salary required to Box 603, *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

WANTED—Early North Midland Railway and Midland Railway publications. Write in first instance stating title and year to A. J. TURNER, 56, Boulton Lane, Alvaston, Derby.

tions in the engineering industry (such as particular types of draughtsmen, tool makers and instrument makers) and (for merchant shipbuilding) ships' draughtsmen, except for some occupations from which all the ex-apprentices becoming due for call-up are required in the Services as tradesmen. As under the existing arrangements, deferment will be for two years after completion of apprenticeship. It will be granted only to men whose skill is being fully used in connection with designated export work and where the position cannot be met by the provision of a substitute. The number of men who will be granted temporary deferment of calling up under this scheme cannot be precisely estimated but is expected to be of the order of 2,000 a year out of some 23,000 ex-apprentices in engineering and metal working occupations at present called up annually. The Ministry of Supply or the Admiralty will notify establishments which come within the scope of the scheme and notify them of the procedure to follow in applying for deferment of individuals.

Tendency to Cheaper Air Travel.—Mr. John Brancker, of the British Overseas Airways Corporation, told the conference of the International Air Transport Association at Geneva last week, that the glamour of air travel was on the way out, as were the free gifts, individual treatment, and free drinks for passengers. He said that air travel would take on more and more the aspect of travel by train. The trend was towards handling large numbers of people, and passengers would have to get over expecting to be nursed. Mr. Walter Sternberg, of the United States National Airlines, took the same view that the trend was towards eliminating the frills and the luxuries in an effort to bring down fares, though free gifts would be retained on standard and luxury services.

Train Alterations for Euston Station Improvements.—Main operations in altering track layout and installing new signalling at Euston, L.M.R., will be carried out between September 28 and November 9. During that time some trains will be withdrawn entirely and others diverted to, or stopped short at, other stations. There will be several diversions of sleeping car trains to St. Pancras, and on some services sleeping cars will be detached at Willesden, passengers proceeding to Euston in the same train or remaining in the cars until 7.30 a.m. and completing the journey by local train. Among other alterations, the

ASSISTANT to the Works Management required by Wagon Building and Engineering Company in South Wales. Applicants should be under 40 years of age and have a theoretical and practical knowledge of the trade. Apply giving details of experience, etc., together with salary required to—Box 600, *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

THE "PAGET" LOCOMOTIVE. Hitherto unpublished details of Sir Cecil Paget's heroic experiments. Eight single-acting cylinders with rotary valves. An application of the principles of the Willans central-valve engine to the steam locomotive. By James Clayton, M.B.E., M.I.Mech.E. Reprinted from *The Railway Gazette*, November 2, 1945. Price 2s. Post free 2s. 3d. *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

TRANSPORT ADMINISTRATION IN TROPICAL DEPENDENCIES. By George V. O. Bulkeley, C.B.E., M.I.Mech.E. With chapters on Finance, Accounting and Statistical Methods. In collaboration with Ernest J. Smith, F.C.I.S., formerly Chief Accountant, Nigerian Government Railway. 190 pages Medium 8vo. Full cloth. Price 20s. By post 20s. 6d. *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

8.20 a.m. from Workington and 1.35 p.m. from Barrow will terminate at Wembley on Sundays, October 5 to November 9. Electric services will be affected from October 6 to November 1, when some trains will start from or terminate at Primrose Hill or Willesden Junction, and there will be some reductions in frequency of midday and evening trains. On Sundays October 5, 12, and 19 the Euston-Watford Junction service will start from and terminate at Primrose Hill. Passengers' baggage will be conveyed by road service between Euston and Primrose Hill.

Road Haulage Claims Prevention.—In connection with its campaign for reducing claims, the Road Haulage Executive has prepared for insertion in customers' accounts a leaflet entitled "Package Protection." Emphasis is laid on the part the customer himself can play in ensuring safe transit of the goods, and there are three pages of suggestions on packing, securing, labelling, and addressing.

International Machine Tool Exhibition.—Speaking at a luncheon held at Olympia on September 18, in connection with the International Machine Tool Exhibition, Mr. Duncan Sandys, Minister of Supply, said that we were on the threshold of advances in the design of machine tools no less remarkable than the progress witnessed in other spheres of science and technology. He pointed out that rearmament would continue to absorb an appreciable part of the country's industrial effort for several years, but the heavy task of equipping industry for the current defence programme would, by the end of this year, be largely completed. In consequence the machine tool industry would then be able to devote more resources to normal commercial business.

Further Rate Increase Sought by Canadian Railways.—The Canadian Pacific and Canadian National Railways earlier this week asked the Canadian Board of Transport Commissioners to grant permission to increase by 1 per cent. their most recent application for a general freight rate increase of 16 per cent. An additional 1 per cent., calculated to yield \$5 million a year, is sought to compensate for increased costs since the last application was filed on July 15 last. Sixteen per cent. would yield to the railways about \$80 million a year; this is being asked on the grounds of increased wages, though not including the higher wage bill expected

RAILWAY MAINTENANCE PROBLEMS. By H. A. Hull (late District Engineer, L.M.S.R.). Valuable information. With much sound advice upon the upkeep of permanent way. Cloth. 84 in. by 5½ in. 82 pp. Diagrams. 5s. By post 5s. 3d. *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

INTERNATIONAL RAILWAY ASSOCIATIONS. Notes on the work of the various associations concerned with International traffic, principally on the European Continent. 2s. By post 2s. 2d. *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

N.E.R. HISTORY.—Twenty-Five Years of the North Eastern Railway, 1898-1922. By R. Bell, C.B.E., Assistant General Manager, N.E.R. and L.N.E.R. Companies, 1922-1943. Full cloth. Cr. 8vo. 87 pages. 10s. 6d.—*The Railway Gazette*, 33, Tothill Street, London, S.W.1.

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to result from the current dispute with 125,000 non-operating employees. The application for 16 per cent. is divided into two parts, the railways seeking 7 per cent., or about \$35 million a year, immediately, and the other 9 per cent. later. The request is for an additional 1 per cent. to be added to the immediate 7 per cent. increase sought. Reference was made in last week's issue to a revision of rates for traffic through Eastern Canadian ports, to obtain parity with Atlantic ports in U.S.A.

Regulation of Christmas Travel to Ireland.—British Railways announced on September 18 that passengers travelling to Ireland on certain days prior to Christmas must obtain steamer reservation tickets (issued free of charge). Sailings affected are: Holyhead-Dun Laoghaire, December 20 to 24 inclusive; Heysham-Belfast, December 19, 20, 22, and 23; Fishguard-Rosslare, December 19, 22, 23, and 24; and Fishguard-Waterford, December 19 and 22. No reservations are necessary on the return sailings from Ireland.

Proposed Reduction in Anglo-Scottish Air Fares.—A meeting of the Scottish Advisory Council for Civil Aviation on September 20 considered proposals to reduce the air travel fares between Edinburgh and Glasgow and London by about 25 per cent. Sir Patrick Dollan, Chairman of the council, said the proposals had been under consideration for some time by British European Airways, but they required the approval of the Ministry of Civil Aviation and of the Advisory Council. It was unlikely that reductions would come into force before November. He added that the opinion was held that a reduction in winter fares would help to take up some surplus capacity, and if services could be operated with a reasonable pay-load during the winter it would make all the difference between a profit and a loss.

World Travel Conference in Italy.—Travel experts from all parts of the world will seek ways to remove restrictions affecting the freedom of tourists at the seventh general assembly of the International Union of Official Travel Organisations, to be held in Naples from October 7 to 12. Specialists from the 46 member countries, with observers from the United Nations, numerous non-member countries, international organisations, and commercial firms interested in the tourist industry will attend the assembly, over which M. Henry Ingrand, Commissaire General au

Tourisme, France, will preside. Great Britain will be represented at the assembly by Sir Alexander H. Maxwell, Chairman, and Mr. John G. Bridges, Director-General, of the British Travel & Holidays Association.

Record Steel, Iron and Coal Carrying by British Railways.—A record tonnage, 220,430 tons, of iron and steel was carried by British Railways from principal steel-works during the week ended September 13. The weekend rail coal carrying figure of 347,760 tons up to 6 a.m. on September 22 was the highest for the last five months, bringing the total carryings for the week up to 3,150,170 tons.

Forthcoming Meetings

- September 26 (Fri.) to September 29 (Mon.).—Course on "Transport and the Public," at Ashridge College, Berkhamsted, Herts., in conjunction with the Institute of Transport.
- September 27 (Sat.).—British Railways, Southern Region, Lecture & Debating Society. Visit to Southampton Docks, leaving Waterloo at 8.30 a.m.
- September 27 (Sat.).—Permanent Way Institution, London Section. Visit of Irish Section members, including a joint meeting at the Railway Executive Headquarters, 222, Marylebone Road, N.W.1, at 2 p.m. "Permanent Way Practice in France and Germany," by Mr. P. T. Somerville-Large, Vice-Chairman, Irish Section.
- September 29 (Mon.).—Historical Model Railway Society, at the Headquarters of the Stephenson Locomotive Society, 32, Russell Road, W.14, at 7 p.m. "The Tallylyn-Railway," by Mr. T. W. Robertson.
- October 2 (Thu.).—British Railways, Western Region, London Lecture & Debating Society, in the Headquarters Staff Dining Club, Bishopsbridge Road, Paddington, at 5.45 p.m. "Port of London Authority," by Mr. L. E. Ford, General Manager, Port of London Authority.
- October 3 (Fri.).—Railway Club, 57, Fetter Lane, E.C.4, at 7 p.m. "The British Transport Museum," by Mr. J. H. Scholes, Curator, British Transport Museum.
- October 3 (Fri.).—Public Transport Association Luncheon, at the Connaught Rooms, Great Queen Street, W.C.2.
- October 3 (Fri.).—Scottish Society of Students of the Locomotive, at 302, Buchanan Street, Glasgow, C.2, at 7.15 for 7.30 p.m. Annual General Meeting.
- Until October 4 (Sat.).—International Machine Tool Exhibition, at Olympia, W.14.
- October 4 (Sat.).—Electric Railway Society, at Fred Tallant Hall, 153, Drummond Street, N.W.1, at 3 p.m. "The Manx Electric and Snaefell Mountain Railways," by Mr. J. H. Meredith.
- October 4 (Sat.).—Permanent Way Institution, Leeds Section. Visit to underground works at Lofthouse Colliery, at 9 a.m.
- October 6 (Mon.) to October 11 (Sat.).—Photographic Exhibition organised by the Railway Correspondence & Travel Society, in association with the Railway Photographic Society, at Railway Executive Headquarters, 222, Marylebone Road, N.W.1. Open between 11 a.m. and 8 p.m.

Railway Stock Market

News of new issues has had a depressing effect on stock markets, where British Funds and industrial shares have lost ground mainly because, if there is a rush of new offers, there would be a good deal of selling so as to take up new securities on attractive terms. There has been little selling this week, but buyers were showing increased caution. The tendency is to expect that the rise in British Funds soon will be renewed; on the other hand, it is assumed that the industrial market will probably remain unsettled. Financial results announced confirm that profits in many industries are running well below the last year's levels, when inflationary factors were strong, whereas now there is increasing competition both in home and export markets. Nevertheless, many leading industrial shares with good prospects of maintaining their dividends now offer attractive yields, and can be expected to show some recovery in price before long. The higher wage demands of the engineering unions still are a factor influencing markets adversely. It is realised that major wage increases obtained in one industry would be followed by wage demands in other industries, which by raising costs would be a handicap in competing in export markets, and mean lower profits and reduced dividends in the long run.

Foreign rails have again shown individual features of strength, though best levels have not been held, the general trend of markets this week being the dominating influence.

White Pass & Yukon were again prominent on talk that American interests wish to acquire control and might be prepared to offer up to 28 dollars per share; but this lacks confirmation and the report is treated with reserve. At the time of going to press, the market price, after touching a new high level, has eased to 22½ dollars, which compares with only 4 dollars at which dealings started in these shares a few months ago. The 5 per cent. convertible debentures have also been up to a new high level, and are £81½, with the 4½ per cent. debentures £30½.

Antofagasta stocks remained easier, with the ordinary at 11 and the preference 53, but United of Havana 5 per cent. (1906) debentures maintained a

firmer showing and were quoted at 16½. Manila Railway issues were inclined to ease with the "A" debentures at 81 and the preference shares back to 8s. 9d., while in other directions, after the recent rise, Dorada ordinary stock relapsed to 52.

Guayaquil & Quito 5 per cent. first bonds have changed hands at up to 28½. International of Central America no par value stock at 16½ dollars, and Costa Rica 6½ per cent. second debentures up to 37.

Brazil Railway bonds kept at 6½, Mexican Central "A" debentures have been steady at 70½, but elsewhere, San Paulo 10s. ordinary units eased to 11s. Nitrate Rails shares were 19s. and Taltal remained at 15s.

Canadian Pacific at 61½ dollars have been less active, and, as usual, moved closely with the general trend of New York markets. The preference stock was well maintained at 65½ and the 4 per cent. debentures 80½.

Engineering and kindred shares have been affected by the general market trend, and by a disposition to await developments in the wages claim. Guest Keen were 54s. 3d., Vickers 44s. 6d., and Cammell Laird 5s. shares 11s. 9d. Babcock & Wilcox changed hands around 69s. 6d., Tube Investments came back to 56s. 9d. with the general trend, while Ruston & Hornsby were 37s. 3d.

Staveley were a good feature at 78s. 6d. though best prices were not held. After the award in respect of the nationalised Staveley Iron & Chemical subsidiary, the market has revived hopes of a return of capital to shareholders, though since the Chairman referred a year ago to this possibility the position has changed in the light of the Government plan to denationalise steel. Whether there is to be capital return may depend on denationalisation developments. The Staveley annual report, due shortly, can be expected to refer to the position, though the denationalisation terms have to be awaited before a definite decision is made.

Shares of locomotive builders and engineers have been steady generally, with Beyer Peacock an active feature around 30s. 6d. Hurst Nelson were higher at 49s. 6d. and North British Locomotive 15s. Vulcan Foundry were 23s. 3d., Gloucester Wagon 10s. shares 12s. 6d., Wagon Repairs 5s. shares 12s. 3d., and Charles Roberts 5s. shares 21s. 9d.

Traffic Table of Overseas and Foreign Railways

Railway	Miles open	Week, or month ended	Traffics for week		No. of week	Aggregate traffics to date				
			This year	Inc. or dec. compared with 1950/51		Total	Increase or decrease			
						1951/52				
South & Can. America	Antofagasta ...	800	12.9.52	£64,290	+	£40,830	37	£5,609,930	+	£1,241,210
	Costa Rica ...	281	Aug., 1952	c1,393,110	+	c97,299	9	c2,856,268	+	c287,598
	Dorada ...	70	Aug., 1952	38,470	+	1,494	35	273,997	—	14,450
	Inter. Ctl. Amer....	794	July, 1952	\$1,032,978	—	\$15,127	30	\$7,977,146	—	\$2,610
	Paraguay Cent. ...	274	12.9.52	G711,058	+	G398,381	10	G6,079,340	+	G2,401,058
	Peru Corp. ...	1,050	Aug., 1952	\$9,656,000	+	\$997,000	9	\$19,162,000	+	\$2,578,000
	" (Bolivian Section)	66	Aug., 1952	Bs.15,591,000	+	Bs.1,629,000	9	Bs.31,978,000	+	Bs.4,987,000
	Salvador ...	100	May, 1952	c153,000	+	c15,000	48	c1,899,000	+	c32,000
	Taltal ...	122	Aug., 1952	\$2,927,000	+	\$862,000	9	\$5,187,000	+	\$1,332,000
Canada	Canadian National†	23,473	July, 1952	18,575,000	+	893,333	30	128,910,000	+	11,476,000
	Canadian Pacific†	17,037	July, 1952	13,064,000	+	1,132,000	30	87,106,000	+	6,182,000
Various	Barsi Light* ...	167	July, 1952	44,155	—	11,670	17	124,140	—	29,610
	Gold Coast ...	536	July, 1952	260,241	+	5,354	17	1,179,541	+	119,405
	Mid. of W. Australia	277	July, 1952	50,950	—	1,857	4	50,950	—	1,857
	South Africa ...	13,398	23.8.52	1,946,420	+	121,965	21	40,951,551	+	1,712,832
	Victoria ...	4,744	May, 1952	2,183,278	+	229,476	48	—	—	—

* Receipts are calculated at 1s. 6d. to the rupee

† Calculated at \$3 to £1